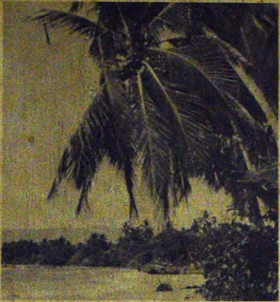

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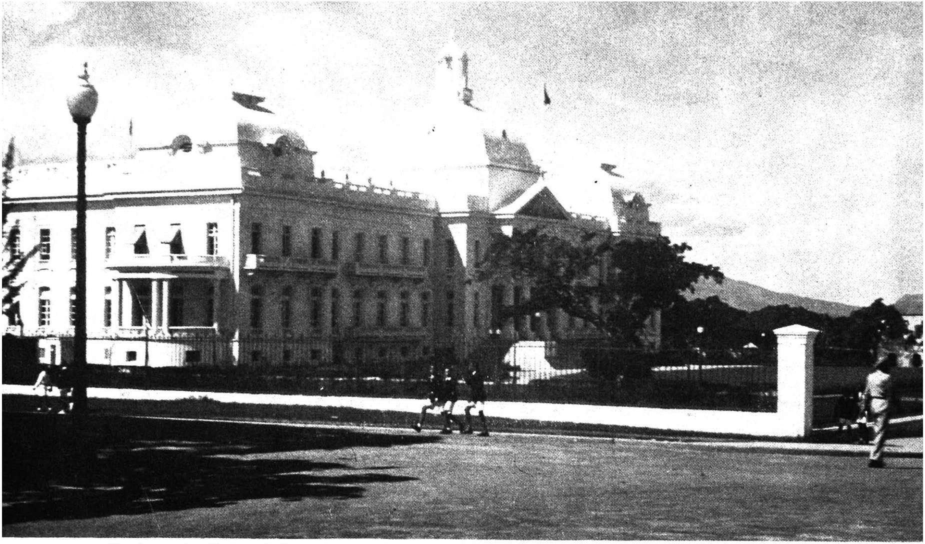

The impressive National Palace, the seat of government in Port-au-Prince, is located in the centre of an attractive development of parks and other government structures.

UNITED NATIONS

MISSION TO HAITI

Report of the United Nations Mission of Technical Assistance to the Republic of Haiti

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Lake Success, New York

July 1949

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The United Nations Mission of Technical Assistance to the Republic of Haiti deserves attention as a new departure in United Nations activities. Undertaken at the request of the Haitian Government under Economic and Social Council resolution 51 (IV) of 26 March 1947, it gave impetus to General Assembly resolution 200 (III) of 4 December 1948, on Technical Assistance for Economic Development, deliberated on and finally adopted while the experts drawn from the United Nations Secretariat, the Food and Agriculture Organization, the International Monetary Fund, the United Nations Educational, Scientific and Cultural Organization and the World Health Organization were actively engaged in Haiti in investigation of the country's development problems. This Mission is in a sense a precursor of the ampler efforts which, it is hoped, the international organizations concerned will be enabled to display in realization of the bold programme of technical assistance to underdeveloped countries envisaged by the President of the United States, and the United Nations contribution to which will be discussed at the forthcoming session of the Economic and Social Council.

The Mission having now submitted its report, the analysis and recommendations of which have been duly brought to the Haitian Government's attention, I have pleasure in making it public in full accord with the President of the Republic of Haiti.

TRYGVE LIE

Lake Success
June 1949

M. L. D. S.
MADRAS

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Foreword

1. Origin, Organization and Procedure of Work of the Mission

Desiring to take advantage of United Nations technical assistance in planning for the economic development of Haiti, the Haitian Government, on 10 July 1948, requested the Secretary-General to organize a United Nations Technical Mission for the purpose, in accordance with Economic and Social Council resolution 51 (IV) of 28 March 1947.[1] On 20 July 1948 the Secretary-General acceded to that request, the mutually agreed terms of reference for the Mission being the following:

"At the request of the Government of the Republic of Haiti the Secretary-General of the United Nations undertakes, in conformity with resolution 51 (IV) of the Economic and Social Council, to organize, in co-operation with the appropriate specialized agencies, a team of experts to advise with the Haitian Government on problems related to the economic development of Haiti. This team will visit Haiti for an estimated period of about two months, and will undertake:

"(1) To examine the problems of and the conditions affecting the economic development of Haiti primarily in the fields of agriculture, industry and related activities, having regard to the inter-related economic and social problems bearing, in particular, on the improvement of health and education;

"(2) In the light of this examination and in taking cognizance of related government programmes or plans, to formulate proposals as to practicable measures, including those of a public finance nature, designed to promote the economic development of the country;

"(3) To appraise the needs in terms of organizational arrangements and technical assistance implied by the measures proposed."

It was further agreed that the Mission should report to the Secretary-General, who would transmit its findings to the Haitian Government.

In implementation of the above undertaking a team of experts was set up in consultation with four specialized agencies, namely, the Food and Agriculture Organization, the International Monetary Fund, the United Nations Educational, Scientific and Cultural Organization, and the World

---

[1] Part A, paragraph 3, of that resolution instructs the Secretary-General to render "assistance to Member Governments which seek expert advice in securing, on terms mutually agreed upon, such advice, particularly in the form of teams of experts who would study specific problems and recommend appropriate practical solutions for the consideration of the Member Governments concerned".

Part B of the same resolution instructs the Secretary-General, in implementing the above instruction, to work at every stage in close co-operation with the specialized agencies.

Health Organization, which were requested to nominate experts in their service who could participate in the United Nations Mission as members conversant with the various problems in the field of agriculture, credit organization, education, and health, having a bearing on the general problem of economic development of underdeveloped countries. The other members of the team were drawn from United Nations economic affairs officers, among whom the Special Adviser to the Assistant Secretary-General in charge of Economic Affairs was selected to head the Mission.

As initially agreed with the Haitian Government, the Chief of the Mission made a two-weeks' preliminary visit to Haiti in the early part of August 1948, for organizational arrangements, for exploratory examination of the general economic picture with a view to determining the main lines of the programme and the most expedient composition of the Mission, and for the assembly of pertinent documentation in preparation for the studies to be undertaken. To facilitate this preliminary exploration a comprehensive committee of national experts had been set up in Haiti. Their continued collaboration in the different phases of the investigatory work of the Mission proved of great value.

The composition of the Mission as finally constituted is shown below. The fields of special experience of the individual experts are broadly indicative of the particular aspects of the Haitian development problem assigned to the different members for study. All the members, however, were to work in close consultation with each other in contributing to the joint team work, and none was expected to report individually.

Members

Ansgar Rosenborg, Chief of the Mission, *United Nations*

William H. Dean, Secretary of the Mission, *United Nations*

William G. Casseres, expert in Agricultural Development, *Food and Agriculture Organization*

Carle Fritzle, expert in Tropical Agriculture, *Food and Agriculture Organization*

Ernest F. Thompson, expert in Development of Fisheries, *Food and Agriculture Organization*

Edwin R. Henson, expert in Combined Resource Development, *United Nations*

Adolfo Dorfman, expert in Industrial Development, *United Nations*

Alexander McLeod, expert in questions of Finance and Credit Organization, *International Monetary Fund*

Elba Gomez del Rey, expert in Public Finance, *United Nations*

Frederick J. Rex, expert in Fundamental Education, *United Nations Educational, Scientific, and Cultural Organization*

Adolf Kundig, expert in Tropical Public Health Organization, *World Health Organization*

Una M. Russell, Administrative Assistant and Secretary to the Chief of the Mission, *United Nations*

The general situation as regards external trade and internal transport and communications would have to be taken into account in the over-all review of the country's economic development problem without provision at this initial stage of specialists on these questions, as considerations of the costs falling on the Haitian Government imposed certain limitations on the size of the Mission. Nor was any specialist on labour questions included in the team, as the Government had already had the benefit of advice on these matters from the International Labour Organisation following a special mission to Haiti by an expert of that organization.

Some time in advance of the date set for the departure of the Mission the members gathered at United Nations Headquarters to study the documentation brought together and prepare the plan of work. The Mission proceeded in the middle of October to Haiti, where it spent two months[1] in intensive investigation of the development problems in the various economic and related fields.[2]

At this point the Mission wishes to express its great appreciation of the excellent arrangements made by the Haitian Government to aid in its task and co-operate actively in the investigations. For office purposes the Government placed at the Mission's disposal in Port-au-Prince a house adequately provided with equipment and supplies. In addition, the Government furnished to the Mission local secretarial staff and junior research assistants, while the senior officers of the various ministries and technical services readily assisted the Mission experts with information and advice. The Mission also wishes to record its gratitude to the Haitian Government for its solicitude for the personal comfort of the members of the team.

The Mission found great encouragement in the deep interest shown in its work by His Excellency Dumarsais Estimé, President of the Republic. As

[1] Some of the members spent less than two months in Haiti. Mr. Dorfman and Mr. Thompson arrived somewhat later than the main party of the Mission, and Mr. Thompson concluded his work in Haiti a few days earlier than the other members. Mr. Casseres and Mr. Dorfman interrupted their Mission work for a brief interval each to attend to pressing duties at the FAO and United Nations headquarters. Brief trips to other countries of the region for technical consultations and study of solutions to development problems analogous to those confronting Haiti were made, with the Haitian Government's approval, by the Mission's specialists in the fields of agriculture, fisheries, small industries, education, and credit organization. Most of these consultations took place in Puerto Rico, where special facilities graciously arranged by the United States Department of the Interior and the Insular Government of Puerto Rico were provided for the purpose.

[2] Valuable advice in the field of fisheries was obtained by the Mission from Mr. Mogens Jul, officer of the Fisheries Division of FAO, who visited Haiti briefly in November in connexion with his regular duties.

principal officer for liaison with the President and the various branches of the State administration, Monsieur Stephen Alexis, Minister Plenipotentiary and Delegate to the United Nations, rendered indefatigable service to the Mission, greatly facilitating its task.

With the Mission headquarters at Port-au-Prince as a base, the members travelled extensively, in groups or individually, making field studies throughout the country. On these field trips they were accompanied by national specialists in the subject matters studied, who shared generously of their knowledge and ensured necessary local contacts. Living, working, and travelling together the experts of the Mission had the opportunity of continuous exchange of views and experience. Observations and conclusions were discussed with a view to the framing of duly integrated recommendations concerning the different aspects of the over-all problem studied by the Mission. The general lines of the joint report were laid down before the Mission returned to Lake Success toward the end of December.

2. Nature of the Mission's Report

The report as here presented is a product of team work incorporating the contributions furnished by the different experts in consultation with each other. In elaborating their contributions they have naturally taken advantage also of advice from others, and especially from fellow experts in the organizations to which they belong. While the findings, suggestions and recommendations here given represent the consolidated views of the Mission, it does not follow that they are necessarily endorsed in full detail by the various United Nations organs from which the members of the Mission were drawn. In other words, the members have served on the Mission primarily in their capacity of experts in the substantive fields covered by the Mission's investigations.

The Mission has set as its primary task to draw up, in the light of its examination of Haiti's economic conditions and relevant problems, a comprehensive and consistent framework, as it were, for the policy it advises the Government to apply in endeavouring to promote the economic development of the country. Within this general frame we propose various measures, in part of an organizational nature, designed to broaden the scope, hasten the pace, and increase the efficiency of the national developmental effort, and to ensure lasting beneficial results therefrom.

The review here given of conditions in the various fields to be taken into consideration with reference to the over-all problem of Haiti's economic development and the recommendations or suggestions made in the report relate to the situation found to obtain at the time of the Mission's sojourn in the country. Account has not been taken in the report of subsequent

developments or of measures subsequently initiated. The Mission wishes to recognize, however, that some of these measures have in fact been initiated on lines that broadly conform to recommendations contained in the present report.[1]

In confining itself at this initial stage of United Nations technical assistance to Haiti to reviewing problems and conditions, formulating recommendations for policy guidance, and suggesting remedial measures, without entering into details of implementation, the Mission has kept in mind the desirability, not to say the necessity, of Haiti's having recourse to continued expert assistance in the minute planning and execution of specific projects undertaken in accordance with the advice here proffered. The Mission wishes to draw the attention of the Haitian Government to the facilities for technical assistance in various forms which the Secretary-General of the United Nations is authorized under General Assembly resolution 200 (III) of 4 December 1948 to render (in fact on somewhat more liberal terms than those previously afforded by Economic and Social Council resolution 51 (IV) under which the Mission to Haiti has been operating) to Member Governments in need of such assistance. In addition, technical assistance in the substantive fields covered by the United Nations specialized agencies may be sought directly from these agencies.

The Mission has not engaged in cost estimates for particular development projects,[2] and to attempt any "wholesale" estimate of the costs involved in an over-all programme of economic development of the country would obviously serve no practical purpose. On various points in our report we stress the necessity for the development effort, if it is to be lastingly successful, to rely in the first instance on efficient utilization of the nation's own means. In view of the relative paucity of these means, however, recourse will have to be had to borrowing abroad for the financing of larger Government-sponsored development projects requiring sizable capital investment. It is for the Government to define such projects in precise detail and to decide where, and in what form, to seek the external capital needed. In undertaking projects requiring external financing it is particularly desirable and necessary to proceed by steps and with great circumspection, in order to allow the economy-strengthening results of first priority projects to take effect before adding new foreign debt commitments. Any foreign lender for specific development projects will obviously wish to make his own appraisal of the costs and credit-worthiness of the particular projects involved prior to risking his funds.

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[1] Reference to such measures is made in footnotes to relevant passages or recommendations contained in the report.

[2] An exception to this rule is the estimate of the costs of a country-wide anti yaws campaign, which estimate is appended to part I, chapter II, Public Health Problems.

INTRODUCTION

Haiti's economic development is confronted with a great variety of problems. Many of these Haiti has in common with other underdeveloped countries; but some of the problems, and indeed the most difficult ones, present themselves with particular acuteness in the Haitian economic picture. They are dealt with at some length in the nine chapters constituting the main body of our report, which are devoted to review and analysis of conditions in the different substantive fields. Many suggestions and recommendations are given in these chapters. For the convenience of those primarily interested in one or the other of these fields who may wish to obtain a concentrated over-all view of the Haitian situation and of the suggestions made to improve it, a brief summary of facts and findings is given here, together with (*a*) a series of general recommendations relating to the Mission's observation of the field as a whole, and (*b*) an abstract of the specific recommendations contained in the individual chapters that follow.

1. Basic Facts and Findings

Agriculture is clearly the mainstay of the Haitian economy and is likely to remain for many years to come the primary source of Government revenue. Agricultural production is not large enough, however, to provide the population—either directly or by way of imports obtained in exchange for exports—with the quantity and types of goods required to maintain an adequate minimum standard of nutrition and clothing. As the mineral resources of the country are small, the principal problem of Haitian economic development consists in improving the agricultural and forest resources and increasing the efficiency of their utilization. An effort towards a broad rural development programme including the development both of agriculture, forestry and fisheries, and of supplementary industrial and handicraft activities, utilizing mainly agricultural materials, and including also the development of the aptitudes and work capacities of the rural population through health improvement, education, and organization of community living, will therefore do the most good to the largest number of people.

In placing such emphasis on rural development we do not mean to suggest that the development of activities in the urban sphere should be delayed. All development problems, rural or urban, requiring support in one way or another from the Government should be considered jointly, and evaluated in terms of their probable net contribution to the

Mountain area showing great pressure on the resources. Area is deforested, cultivated by hand in small patches with machete and hoe. Erosion takes heavy toll of fertility. Fields have very thin layer of soil. Note landslides, worn paths and gulleys. Many fields are no longer farmed.

national economy, due account being taken of the period of time within which a reasonable return may be expected; hence priorities should be determined on the basis of a balanced approach.

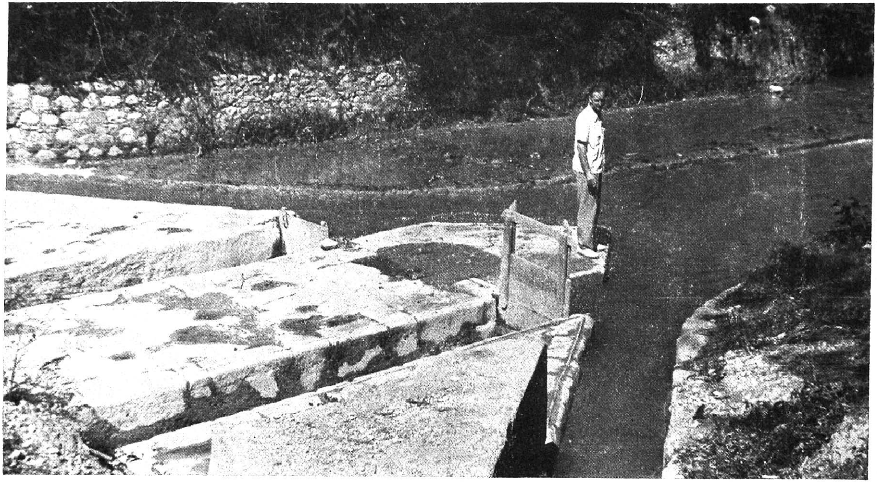
Haitian agriculture is faced with the grave problem of sustaining an expanding population on shrinking land resources. It is high time to arrest the dissipation of the basic wealth of the country and to reverse the trend. Impoverished land must be reclaimed and unproductive tracts opened up for agricultural use by irrigation, drainage, flood control, reforestation, and other anti-erosion and soil-conservation measures. Wasteful cultivation methods practised by a little-educated and growing population steadily pushing up the slopes, and wasteful methods of forest exploitation and of consumption of forest products have led to a most serious denudation of once well-wooded areas of great extent. Haiti's forest resources are now small, and the loss of forest cover has entailed disastrous floods and precipitated destructive erosion.

The tillage area at present under irrigation is estimated at between 35,000 and 40,000 hectares. The possibilities for extended irrigation are significant but by no means unlimited. The soil has been abused by backward methods of cultivation—failure to apply manure or fertilizers, and absence of crop rotation; but the soil appears to have good recuperative powers in many places and there are substantial stretches where it is quite fertile. In the midst of areas where the soil is largely exhausted some unused land of good quality is not infrequently to be found.

The deforestation has for several decades gone hand in hand with a steady decline in the production of coffee, Haiti's principal export product, in the cultivation of which, mostly at or above an altitude of 1,500 feet, the country has a natural advantage.

Plantations are few, covering perhaps ten per cent of the cultivated area. Peasant holdings accounting for most of the non-plantation area are individually small, and often excessively parcelled. Land tenure is largely ill-defined and insecure. Export taxes levied on the principal products weigh heavily on the primary producers who also fall victims to usurious credit practices. As, moreover, difficult transport conditions and various institutional factors give rise to wasteful marketing procedures, keeping the costs of marketing of peasant produce at a next to prohibitive level in many instances, the net cash return to the producer is often pitifully small.

Technical retardation also characterizes Haitian marine fisheries, which yield considerably less than their potential. The Mission viewed fisheries exclusively from the standpoint of domestic consumption requirements, which are at present very inadequately met, in part by imports. Fish culture in ponds would appear the only means capable of expanding the



An excellent irrigation structure built by the French, long neglected but recently dug out from under debris several feet thick and restored for use. Organization for consistent and continuing management and maintenance of such facilities is essential. The local users should have more responsibility, as an inadequately or uncertainly financed agency of the government cannot provide the constant care required.

supply of fish from local resources to a volume reasonably close to consumption requirements. Haiti possesses a very considerable area of lakes, rivers, irrigation canals and ditches, waste land capable of being flooded, and a great variety of shallow lagoons both salt and fresh, which could, under proper expert guidance, be put to good use in fish culture. Development measures to that effect will have to be intimately tied in and co-ordinated with the comprehensive measures for land reclamation and improvement and water resource control called for by the broader agricultural development effort.

Manufacturing and mining are little developed. Processing of sugar cane and decortication of sisal chiefly for export, and lumbering and sawing of timber for the home market represent major agro-industrial activities. Encouraging results have been achieved in the production of essential oils for export. Extraction of edible oils for domestic consumption is undertaken in modern plants, and a technically perfected sizable cotton mill capable of satisfying a substantial part of the country's present demand for coarse cotton fabrics has recently been set up at Port-au-Prince. Such other industries as are now to be found in Haiti are technologically little advanced and are operated on a quite modest scale to meet the local demand for certain elementary consumption goods. A notable expansion has taken place of late in handicraft manufacture of fancy articles, principally of sisal and mahogany, for export.

From such partial surveys as have been made of the apparently not very varied mineral resources it would seem that Haiti possesses good raw materials for lime and cement manufacture and in sufficient quantity to satisfy domestic requirements. Fairly ample deposits of bauxite have been located in different parts of the country and exploratory production has been undertaken by a foreign concern. Other metallic minerals seem relatively scarce, but their occurrence has not yet been adequately investigated. There are deposits of lignite which might prove worth exploiting, more especially for generation of thermo-electric power. There are also some hydro-electric power resources which could be made use of for economic development purposes.

This rapid review of the productive resources and the state of their utilization will suffice as a general background for a succinct summary of the principal findings in the light of which the Mission has formulated its proposals and recommendations. These findings, stated more amply and with pertinent qualifications in the subsequent chapters, are the following:

The fundamental economic problem of Haiti derives from relentless pressure of a steadily growing, insufficiently educated population upon

limited, vulnerable and—so far as agricultural land is concerned—alarmingly shrinking natural resources.

In the circumstances *per capita* real income is extremely low and family incomes of the great mass of the people are barely sufficient to meet rudimentary requirements of food, clothing and shelter; hence capital formation is very slow, incapable of providing the means for such development ventures as would require large capital sums for their execution.

The general standard of living is so low as not to permit of further compression. This fact narrowly circumscribes the possibilities of broadening the tax basis to increase Government revenues, which are small and call for careful husbanding in relation to vital current needs, leaving little surplus, if any, for capital purposes.

Medical care is very inadequately provided for in the rural areas, and for lack of education facilities the great majority of the population is illiterate and, as such, bound by ancient traditions and retarded production techniques. Without a minimum of fundamental education, however, it is not possible effectively to improve the health and raise the productive capacities of the people.

Production and exports, though somewhat broadened in scope during the last few decades and particularly in recent years, are still relatively little diversified, and transport facilities are highly inadequate.

There is a lack of credit facilities, especially as regards medium- and long-term credit to agriculture, small industry and handicraft, and lack of facilities also for channelling into productive investment such individually small savings as are made by some parts of the population despite the low general level of income.

The central aim to be set for the economic development is to raise the general standard of living. To this end national real income must be increased at a rate exceeding the rate of growth of the population; this goal can only be achieved by a determined expansion of physical production by broadening its material basis and mobilizing for the purpose (within the limits set by efficiency considerations) the abundant and now poorly employed manpower.

To cope with this task a resolute national effort marshalling the energies and skills of all the people is required. It is advisable that in this effort primary emphasis be laid on broad rural development. In any organizational arrangements for developing community living, improving sanitation, promoting melioration and better utilization of land and other local resources, opening up new and improving already existing roads and other transport and communications facilities, and so on, the active co-operation of the local population should be enlisted. It is important to foster a spirit

of self-help among the people, encouraging the use of such capital and material assets as they may possess themselves and stimulating co-operative ventures, for many things can be done by such groups which individuals cannot do alone.

2. Recommendations

Good plans have been laid at different times in the past and worthwhile development projects undertaken for their realization, but they would appear not to have formed part of a well-conceived general programme embracing all the different aspects of the national economic development; they have therefore lacked in co-ordination and continuity, have frequently been piecemeal in nature, have often not been consistently followed up by appropriate care for and maintenance of capital assets created, and have therefore in the long run fallen short of the desired results. This unsatisfactory state of affairs is largely explained not only by lack of adequately trained technical personnel—which, in principle, could have been remedied, at least in some degree, by more extensive use of external technical assistance—but also and above all by lack of organization for comprehensive planning and continuous supervision of the developmental endeavour.

Under its terms of reference the Mission should appraise the need for organizational arrangements implied by the measures designed to promote the economic development of Haiti which it might propose. Proposals and recommendations of this nature are given at various points in our report. Those of a general nature, bearing simultaneously on several if not all of the different sectors of the Mission's field of investigation, are given here in full, and are followed by an abstract of the specific recommendations which are to be found in the chapters examining these sectors individually.

(a) *General recommendations*

(i) To ensure continuity of policy in the determination of national requirements and the formulation of development objectives and targets, to advise on fiscal policy and budget planning, to provide for adequate technical and economic study, for objective appraisal and establishment of priorities of projects for agricultural reorganization and improvement, encouragement of supplementary industrial and handicraft activities, utilization of the country's economic resources, active development of the credit organization, of trade, transport and communications, amelioration of health conditions and advancement of fundamental education, in short, for the promotion of the welfare of the nation, *the Mission recommends that an independent advisory national resources and development board be established with five full-term members.*

The five appointed members of the board should be nominated by the President of the Republic for renewable terms of five years each, but the terms should be staggered so as to give the body continuity. As indicated by the above enumeration of its tasks, the Board would have essentially planning and general supervisory functions and should report directly to the President.

The choice of the five full-term members of the Board should be made from citizens of Haiti—"notables" on the national level—taking no active part in politics, distinguished in the present and in the past for their knowledge and experience of the problems of the country, and for their good judgment and devotion to the betterment of Haiti. (The Mission suggests a small regular membership of the Board in order that it should be an efficiently functioning body.) The Board's meetings should be closed.

The Secretaries of State for Agriculture, for Trade and National Economy,[1] and for Finance, and the President-Director-General of the National Bank of the Republic should *ex officio* be non-voting associate members of the Board. Any other Secretary of State would be entitled to take part, at his own discretion and in a non-voting associate-member capacity, in any meeting at which matters falling, from an executive point of view, under the jurisdiction of his Ministry were being considered by the Board. Secretaries of State would have the right to be represented at meetings of the Board by Under-Secretaries of State, and the National Bank President by a vice-president of the Bank. The Board would be entitled to invite for hearings, at its own discretion, Under-Secretaries of State, Directors-General of Government technical services, other technicians, or representatives of agriculture, industry, trade and transport, finance, educational and health organizations or institutions, or any other person it wished to consult with reference to specific development projects or problems. The Board would be entitled to hold at its own discretion working-party meetings unattended by associate members or their representatives.

The Board should be provided with a permanent technical secretariat, to work as an independent organ in close contact with the President of the Republic. The secretariat should be provided with a budget sufficient for its research, investigation, and clerical work, and for adding to its staff, for long or short terms, such technical advisers as may not be available in the Government ministries and other institutions. The Board would make full use for its secretariat of technical advisers, without neglecting sources of advice in Haiti, but whenever necessary, and subject to the President's approval, calling upon outside technical assistance and advice, particularly

[1] Reorganized ministry proposed in part II, chapter III, Industry, section C, 1, page 191.

from international agencies. The secretariat should be under the direction of the Secretary-General of the Board, who should be a person technically qualified by his experience in Haiti or in other countries with similar problems, to guide the conduct of surveys and studies of development projects and to aid in the technical evaluation and choice of projects to be carried out. He should have the right of direct access to the President of the Republic, should be given authority equivalent to that of an Under-Secretary of State or a director-general of a technical department, and should be empowered to call upon the staffs of the ministries, the National Bank (particularly its Research and Statistics Service),[1] and other governmental institutions for information in their possession and for the carrying out of studies necessary for the evaluation of projects.

The chief function of the secretariat would be to provide for the Board the technical information and recommendations necessary to enable the Board to evaluate proposed projects for economic development and to review progress of projects already under way. The Board, on the basis of this information, would make recommendations to the President of the Republic concerning plans, programmes, and specific projects and on over-all policy with regard to economic development. The execution of projects would not be the responsibility of either the Board or its secretariat, but would remain the task of the existing governmental executive services and institutions.

It is recommended that the Secretary-General of the Board be made the Chairman of an Inter-Ministerial (Inter-Departmental) Technical Co-ordination Committee, at the Under-Secretary of State level. Such a committee would be of great service for mutual information, contact and co-operation, would facilitate the practical co-ordination of the execution of economic development work in particular, and would be a means of current checking of the progress made on projects in course.

In part II, chapter IV, Credit Organization, recommendation 4 (*b*), the suggestion is made that the Secretary-General of the National Resources and Development Board should be an *ex officio* member of the proposed new General Board of the National Bank of the Republic. The reciprocal representation of the Bank on the Resources and Development Board and of that Board (through its highest permanent officer) on the Board of the Bank would go far to secure the desired co-ordination of the developmental work of these two important policy-guiding agencies.

(ii) The capacity of the public administration for sustained action is impaired by insecurity of tenure of the staff, exposed to the caprices of

[1] Reorganized service proposed in part II, chapter V, Credit Organization, recommendation 6, pages 273-274.

political change detrimental to the stability and efficiency of the civil service. For lack of firm rules consistently applied to govern uniformly the conditions of service of all categories of staff, administrative, clerical, technical, and professional, circumstances have been inauspicious for imparting to the Haitian civil service that cohesion, awareness of purpose and consciousness of duties and responsibilities which are necessary for effective administration essential for successful pursuance of the developmental effort. Therefore, *the Mission recommends that measures be taken to improve the civil service through appropriate reform of relevant laws, regulations, practices, and administrative arrangements, including rules and arrangements concerning recruitment, tenure, functions, rights and obligations, emoluments, promotion, retirement, or dismissal of staff.* It is important to devise as a basis for the constitution of the civil service a merit system free from political intrusions. *Reform of the organization and methods of the public administration is also required to improve its efficiency.* Expert help in the comprehensive reforms here envisaged may be provided by the United Nations through its machinery for technical assistance for economic development.

(iii) In the examination made elsewhere in this report of the conditions obtaining in particular substantive fields emphasis is laid in different connexions on the importance of enlisting the active co-operation of the local people, through organs of their own, in the national developmental effort. Accordingly, *the Mission recommends that the Government consider measures to encourage local initiative and self-help* in a spirit evolving—free from particularism—within the frame of national objectives and endeavours. *To this end it is recommended that the organs of local government*—weak at present under the impact of a centralization which would appear to have been pushed too far—*be strengthened to play their proper part in developmental public works, in improving sanitary installations and water supplies, in providing other facilities for health improvement, facilities for advancing education, etc.* To this end they need enlarged financial means and widened powers and responsibilities. Examples are not lacking in Haiti of local entities which by organized effort have supplemented the resources accorded them for erection and maintenance of schools and roads. Generalization and systematization of such joint local/national efforts are needed.

Encouragement of local initiative and self-help should not be confined solely to the strengthening of organs of local government. Community organization in other forms designed to benefit in the first instance the immediate participants in such ventures will be equally if not more important. Co-operative action, if properly institutionalized, may prove a particularly powerful lever for rural development. Expert advisers in

Ferry carrying produce and passengers across Ravin du Sud near Les Cayes. Lack of bridges, roads, and transport still greatly handicap economic development.

both fields may be provided through United Nations technical assistance machinery.

(iv) A serviceable system of transport and communications is a main key to economic and social development. Haiti has as yet barely the beginnings of such a system, so far as road transport and coastwise shipping are concerned. *The Mission recommends that a master plan for speedy amelioration in the first instance of existing "national roads" and of "departmental roads" of vital importance should be prepared without delay,* a plan for the country as a whole, to serve as a basis for developing road transport and communications in the national interest and to guard against fragmentation induced by local political pressure groups. Suggestions as to the scope of that plan in its initial phase are made in part II, chapter IV, section A.2. It should include, in the case of principal roads, provision of a permanent surface which with appropriate and unfailing maintenance would be capable of resisting the vagaries of the Haitian climate. Expert advice, drawing on experience gained in countries with similar climate, topography, and soil conditions, should be sought on the choice of material to be used for such permanent surfaces, the elements of cost involved in initial construction and subsequent maintenance of roads surfaced with one or another kind of material in different types of terrain and on stretches subjected to different traffic loads, to be carefully weighed against each other in that choice.

The Mission recommends further that early consideration be given to the establishment of an organized coastal small-boat transportation service, preferably on a co-operative basis, providing frequent sailings according to fixed time schedules and applying a unified tariff of freight rates.

Experts on the various aspects of transport improvement here envisaged may be provided by the United Nations through its machinery for technical assistance for economic development.

(v) Impressed by the fact that continued, unrelenting pressure of a steadily-growing population upon the limited natural resources is in prospect for Haiti for years to come—for, developing the yield of those resources first to catch up with and then substantially to surpass the population growth is a process bound to take quite considerable time even in the most favourable circumstances—*the Mission recommends that serious consideration be given to the possibility of encouraging emigration as a means of relieving the acute population pressure.* There are in the general orbit of the Caribbean sparsely populated countries—whose population is largely of the same stock as that of Haiti—which have made known their willingness and desire to receive immigrants to help develop their natural resources. Emigration from Haiti should preferably take the form of moving whole family units from over-populated agricultural areas for permanent settlement in the country of immigration, by contrast to the primarily seasonal or temporary emigration that has taken place in the past. Both the United Nations and the International Labour Organisation command facilities for rendering technical assistance in and advice on implementation of the policy here recommended.

(vi) The lack of statistics on important economic, financial and social phenomena is stressed on numerous points of this report. Yet, comprehensive and reliable statistical information is essential for realistic and purposeful planning, for following the progress of development projects under way, and for checking their results. Technically satisfactory statistics are indeed an indispensable policy tool of any modern nation. Accordingly, *the Mission recommends that measures be taken as soon as feasible to provide for the collection, preparation, and publication by the Government of complete and accurate statistics* regarding: (*a*) the population, its demographic and occupational structure and movements, its health and educational conditions; (*b*) the agricultural, fishery, forestry, industrial, and power resources and production; (*c*) trade, transport and communications; (*d*) price movements, money and credit, capital formation, national income, and balances of payments; (*e*) the public finances in their different aspects.

Specific statistical reports will have to be furnished with reference to development projects. Tourism and foreign capital investments are to be covered as factors in the balance-of-payments picture. For the statistics on births and deaths adequate registration is necessary; thorough reorganization and improvement of the present defective system of registration is hence required. The fact that preparations for the 1950 general census, the first of its kind to be taken in Haiti, are well under way (with the assistance of a United States expert in the matter) has been taken note of with particular satisfaction by the Mission, which considers the taking of the census an important step in providing basic information needed for comprehensive development planning.

Certain elements of the economic and financial statistics broadly defined above are presently compiled by the statistical unit of the Fiscal Department of the National Bank of Haiti. In part II, chapter IV, Credit Organization, recommendation 6, it is proposed that this unit be expanded and developed into a broader gauge Research and Statistics Service placed immediately under the Director-General of the Bank. To fulfil its functions properly, the Bank will always be in need of such a service of its own. Some other Government departments have of late begun the organization, tentatively so far, of certain statistics relating to matters falling administratively under their jurisdiction. In the Industry chapter (part II, chapter III, section C.2), the nature of the industrial and trade statistics required is defined in some detail. It may well be expedient, at any rate to begin with, to have statistical services set up in the different departments that are and will presumably remain responsible for the collection of basic statistical data in one or another of the different fields referred to above. But proper co-ordination between them and agreement on methods and basic classification standards will be necessary. A joint co-ordination committee will have to be provided for that purpose. Ultimately it would be advisable to provide for a central statistical administration charged with the preparation and publication of most if not all official statistics. This central administration may be built up around the Population Census Bureau, of which an embryo is already in existence, and be placed in close contact with the secretariat of the National Resources and Development Board.

Expert assistance in the detailed planning of the statistical organization and of the statistics that are called for in the different fields may be provided by the United Nations. Similarly, for the training of Haitian statisticians abroad, whether in courses organized by the United Nations Secretariat and the specialized agencies, or in the national statistical institutions and services of countries with well-developed statistics, access

may be had to fellowships that can be provided for the purpose within the frame of the United Nations machinery for technical assistance for economic development.

(b) *Abstract of specific recommendations*

The Mission recommends that:

As regards *agricultural development* (part II, chapter I, pages 104-131):

1. The reorganization of Haitian agriculture be undertaken as a pressing national enterprise;

2. The effort to improve agricultural production be centred successively upon a limited number of comprehensive projects for agricultural development;

3. The starting point of all agricultural development projects be a study of the tenure and use of land in the respective areas;

4. All projects for agricultural reorganization and improvement be planned comprehensively—both on a long-term and on an immediate basis—rather than with exclusive reference to a specific undertaking;

5. The delimitation of areas proposed for development be made whenever possible on the basis of topographic unity;

6. As a general policy, any agricultural development project directly subsidized by Government funds be so planned as to secure repayment to the Government of these funds;

7. Full use of land owned by the State be made to bring about improved patterns of land utilization, special attention to be given to the possibility of introducing leasehold tenure on such lands;

8. An experimental rural credit service be created;

9. The Government purchase exclusively high-grade coffee directly from producers, at preferential prices;

10. The Agricultural Extension Service of the Department of Agriculture be reorganized and strengthened;

11. Agricultural research and experimentation be intensified within a limited scope;

12. The Agricultural School at Damien be reorganized;

13. The connexion between the Rural Normal School at Damien and the Faculty of the Agricultural School be maintained and strengthened;

14. At each agricultural development project a community school be established;

15. The Technical Service of the Ministry of Agriculture be oriented towards studies of and participation in the execution of comprehensive projects of agricultural development;

16. The Forestry Service of Haiti be centred on the forest-management project of SHADA in the *Forêt des Pins;*

17. The present project for irrigation and resettlement of the lower Artibonite plain be carefully studied in all its aspects as a project from which valuable experience and training can be obtained for further undertakings of a similar nature;

18. In the choice of projects for agricultural development through irrigation, priority be given to existing systems, in which physical improvement and the introduction of efficient management would effect a marked increase in efficiency in the use of water and in production per unit of land;

19. Attention be given to increasing the crop area by irrigation from wells;

20. Among types of projects for agricultural development, high priority be given to the establishment of coffee, exclusively on the higher slopes, where the quality of the product is best;

21. A technique similar to that recommended for coffee be used to establish plantations of cacao;

22. Careful attention be given to the possibility of operating simple reforestation projects;

23. Spontaneously afforestable areas be separated and protected from damage due to grazing, woodcutting, burning, or cropping, in order to permit the re-establishment of natural tree cover;

24. Attention be given to making available, especially for structures in agricultural development projects, a sufficient quantity of straight serviceable poles;

25. In appropriate areas (e.g. the Plateau Central), agricultural development projects be centred on improved methods of livestock and pasture management;

26. The control of torrential streams be taken as a central activity around which to develop projects for rural improvements.

As regards *fisheries* (part II, chapter II, pages 161-162):

1. Appropriate regulation be instituted to guard against pollution by industrial waste causing destruction of fish;

2. Measures be taken by means of gradual introduction of new methods, by making available better equipment, and by propagating the use of such methods and equipment to improve the yield of the present fishery industry within its traditional frame;

3. The Government may sponsor a modest project for experimental fishing, a model fishing vessel, power driven and relatively small in size, to be provided for the purpose;

4. The possibility be explored of instituting a thorough survey, jointly sponsored by the several countries of the Caribbean region, of the occurrence

in Caribbean open waters of oceanic migratory fish—a seafood resource of great potentiality—and of their characteristics and catchability;

5. The Government give full consideration to the feasibility of developing fish culture in ponds on an intensive scale;

6. A thorough survey of the possibilities for fish farming be made by a first-rate specialist familiar with successful practices in other countries who may organize pilot operations and train local men in the principles of fish culture;

7. The possibility of enlisting the co-operation of the various countries in the region in a jointly sponsored programme of research and experimentation under supreme guidance of one and the same specialist be explored;

8. Active steps be taken for improving the quality of the processed fish supplied to the market;

9. Careful and continued experiments be undertaken at once to determine the best methods for wet and dry salting of the various types of fish under the particular climatic conditions obtaining in the different parts of the country;

10. Organized measures be taken for improvement of the fish handling and marketing facilities and for their amplification in the event of a substantial expansion of the fish production.

A regards *industrial development* (part II, chapter III, pages 197-199):

1. The possibilities for advancing the domestic industrial processing of such agricultural products as sugar, vegetable oil materials, cocoa and fruits, milk, tobacco, cotton and coarse fibres be explored;

2. Investigation be made—with expert assistance—of the possibility of bringing about at the *Forêt des Pins* a small forest industry combine;

3. The carrying out of mineral resource surveys by those interested in obtaining private concessions be encouraged and facilitated;

4. A number of medium-sized units for rationalized production of lime with full utilization of chemical by-products be established at appropriate points and integrated as far as possible with small wood gasification plants;

5. The establishment of a cement manufacturing plant to meet prospective demand for cement for building and construction activities, including road improvement and other development works, be encouraged;

6. Spot surveying be undertaken to determine the availability of quartziferous sand or quartz for glass manufacture;

7. A thorough survey of the lignite deposits be made forthwith, together with investigation of the best methods for mining and subsequent industrial processing of the lignite and its utilization for electric power generation;

8. A nation-wide survey be undertaken of potential hydro-electric resources, this survey to include also studies of rainfall, water flow, etc., and examination of the possibilities of multiple utilization of the water supply, e.g., for purposes of irrigation, besides power generation;

9. Consideration be given to the possibility of converting the energy of prevailing winds into power;

10. Instruction and guidance in the organization of small-scale engineering, repair and handicraft activities, more especially in conjunction with community development projects, and in the use of production methods and materials, acquisition of equipment, improvement of the quality and appearance of the finished products, etc., be provided by trained field agents;

11. Consideration be given to the possibility of strengthening, by means of a structural reorganization, the administrative machinery most directly concerned with the execution of industrial development programmes;

12. Provision be made for the organization, collection and publication of adequate industrial and related foreign trade statistics;

13. The legislation in force be reviewed and legal practices be examined with a view to determining in what respects and on what points adjustments and ameliorations are required for removing obstacles to and providing encouragement for industrial development;

14. A technical research and information centre be established in due course as an adjunct to a remodelled Ministry of Trade and National Economy;

15. Advanced technical research workers and technicians with solid experience of Haitian industrial problems be given facilities for further technical study and training abroad;

16. The possibilities for developing skills through supervised on-the-job training of workers in Haitian industries be fully utilized in active co-operation with existing industrial enterprises;

17. A thorough examination of the structure of the Haitian customs tariff be undertaken with a view to necessary reform to render it concordant with economic development aims.

As regards *public education* (part I, chapter II, pages 46, 48, 49-50, 52, 57):

1. As a basis for improving education to help in the economic advancement of the nation, the Government undertake:

(*a*) An intensive national effort to reduce illiteracy through the teaching of Creole and French;

(*b*) The preparation and publication of a series of basic readers for the literacy campaign, and of a minimum series of elementary school books for all the school children in Haiti;

(*c*) The initiation of a practical industrial training and apprenticeship programme;

(*d*) The extension of the rural community school programme.

2. With particular reference to 1 (*a*) above:

(i) A small and representative committee of interested Haitian leaders be formed to draw up the programme and the policies to be followed in the national literacy campaign for French and Creole;

(ii) A literacy department be established in the Ministry of Education to take charge of all activities related to the efforts to reduce illiteracy in Haiti;

(iii) The Government consider the advisability of setting as a definite goal of achievement the reduction of illiteracy by 1955 to fifty per cent of the population above seven years of age.

3. With particular reference to 1 (*b*) above, the Government undertake forthwith:

The preparation, publication, and distribution of:

(i) A basic series, in Creole and French, of elementary textbooks and supplementary materials for the school children;

(ii) Appropriate basic readers and almanacs, as well as weekly periodicals in Creole;

And the organization of:

(iii) A special service in the Publications and Textbooks Section of the Ministry of Education to carry out this task.

4. With particular reference to 1 (*c*) above:

(i) The plans for the reorganization of the J. B. Damier Vocational School in Port-au-Prince be so revised that a unified vocational programme can be developed at the school and—as a minimum requirement—the existing shops be provided with adequate tools and modern equipment;

(ii) Serious consideration be given to the establishment of a central Government garage and repair station with training facilities for apprentice mechanics.

5. With particular reference to 1 (*d*) above:

(i) The type of community school and centre which the Rural Education Department and the UNESCO Pilot Project at Marbial have initiated be extended as rapidly as possible;

(ii) The leaders for the adult education activities in these centres be chosen from the local population on the basis of their capacity for leadership and training.

As regards *public health* (part I, chapter III, pages 77-78):

1. Public health training be obligatory for the medical supervisors of the rural health districts;

2. Medical officers in rural public health service be full-time appointees, receiving adequate remuneration to compensate for the loss of private practice;

3. Adequate means of transport at the charge of the public health administration be provided for the medical officers in rural public health service;

4. The planned construction of a new hospital at Bel-Air in Port-au-Prince be reconsidered;

5. Where drainage works have been executed and installations made for malaria control, they should be properly maintained and emergency repairs undertaken without delay;

6. A comprehensive survey be made of the incidence of malaria in the rural areas to serve as a basis for an expedient programme for treating mosquito breeding places with DDT as a larvicide where engineering projects for malaria control through drainage are not feasible;

7. Thorough surveys be undertaken to determine tuberculosis and ancylostomiasis infection rates, more especially in rural Haiti;

8. A trial vaccination of children be made with BCG with a view to deciding whether or not to undertake large-scale vaccination of children endangered by tuberculous infection;

9. Rural clinics and dispensaries be regularly and adequately supplied with the drugs they need for efficient operation, especially in fighting yaws;

10. The efforts of the Public Health Department be concentrated on a systematic fight against yaws, which seriously impairs the work capacity of the rural population and hence constitutes a major obstacle to the economic development of the country;

11. An organized nation-wide anti-yaws campaign be vigorously pursued to bring this plague under control.

As regards *money* and *credit* (part II, chapter V, Credit Organization, pages 271-274):

1. Consideration be given to the possibility of using monetary and fiscal policies—with prudent attention to the limitations and risks involved—for encouraging economic development, having regard to such means and capital sources as:

(*a*) Lending by the banks:

The banks presently operating in Haiti may well pursue a more active lending policy for developmental purposes than they have hitherto practised.

(*b*) Budget resources and fiscal devices:

Allocation for economic development ends of a larger portion of current revenues than has been so allocated in the past is desirable.

(*c*) Individual savings:

Various steps may be taken to encourage saving by the people and to channel these savings to financing development.

(*d*) Foreign private investment:

Energetic efforts should be directed towards inducing capital from abroad to engage in direct investments on terms that will ensure equitable treatment of the investors without granting too generous concessions.

(*e*) Loans or credits obtained abroad:

For the financing of important development projects which require sizable capital investment exceeding the capacity of domestic financial resources, recourse may be had to borrowing abroad, especially from international financial institutions or credit agencies of foreign Governments. It is recommended in this connexion that the Haitian Government examine the advantages of participation in the International Bank for Reconstruction and Development and the International Monetary Fund with a view to applying for membership, giving access to the divers facilities they can offer.

2. The commercial law be revised to provide for an enforceable chattel mortgage which will facilitate the granting of bank credit for the acquisition of capital equipment serving development purposes;

3. A unified monetary law to replace the multitude of partly obsolete laws, contracts, agreements and treaties under which the National Bank now operates and to include also the regulations governing the issue of subsidiary coin, be provided, together with a general banking law setting out the rights, powers, duties, and responsibilities of firms or persons engaging in banking business in Haiti and instituting some form of supervision of the conduct of such business;

4. In connexion with the review of the monetary system and codification of the relevant legislation consideration be given to:

(*a*) The propriety of revising the monetary reserve requirements;

(*b*) The strengthening of the top management of the National Bank by providing it with a general board to assume responsibility in policy matters with particular reference to the part the Bank should play in economic development promotion;

5. An Agricultural and Industrial Development Bank be set up, either as an autonomous department of the National Bank or as a separate

Government-guaranteed institution to provide medium-term and long-term credit principally to farmers, rural industries and handicrafts—preferably through the intermediary of co-operative organizations;

6. The existing statistical unit of the National Bank be expanded and developed into a well equipped Research and Statistics Service of the Bank to provide adequate statistics and analyses of monetary and related matters and furnish expert technical advice and information to the policy organs of the Bank as well as to the secretariat of the National Resources and Development Board and other bodies in need of such information.

As regards matters of *public finance* (part II, chapter VI, pages 318-321):

1. The Government proceed to reshape its revenue and expenditure policy so as to place the emphasis on economic development needs;

2. A comprehensive organic law of public administration be provided;

3. Steps be taken with a view to the introduction throughout the public administration of a system of recruitment based on competitive examinations;

4. Advice and assistance of public finance technicians be sought in undertaking the organizational reform required for improving the operation of the fiscal system;

5. Consideration be given to the creation in due course of a General Revenue Office in the Ministry of Finance to be responsible for the unified administration of all State revenues and to be consulted in all matters relating to fiscal legislation;

6. The budget be conceived as a policy guide and work programme intimately reflecting, if not defining, the Government's plans of activity in the economic and social fields;

7. A Bureau of the Budget be organized to handle, in close contact with the secretariat of the National Resources and Development Board, the budget preparation in harmony with the general economic planning:

8. A structural revision of the import tariff with a view to shifting the emphasis from the purely fiscal aspect of revenue collection to the broader considerations of economic development promotion be undertaken at an early date with assistance from the international organizations competent in the field;

9. The whole system of export duties and assimilated taxes on agricultural staples be re-examined for the purpose broadly defined under 8 above and the relevant laws and regulations be overhauled to remove obscurities, make their wording precise and simplify their application;

10. A comparatively slow progression and comparatively low ceiling of income tax rates be maintained until substantial headway has been made in the general economic development of Haiti;

11. Re-examination be made of the income tax law of September 1948, with a view to its clarification, improvement and completion in different respects;

12. Serious consideration be given to the possibility of early repeal, on economic development grounds, of the product-discriminatory "excess-profit" tax levied on certain agricultural export products;

13. The method of assessment of the excise tax on alcohol production be so modified as to increase its yield;

14. In the absence of conditions propitious to effective operation of sales taxes, this form of taxation should not be attempted until substantial economic advancement, with concomitant rise in levels of living and education have been achieved;

15. In granting taxation favours, due consideration be given to their compatibility with the long-term aspects of economic development as well as to the curtailment of Government revenue that they involve;

16. In planning expenditures and appropriating means for meeting them, due differentiation be made between (*a*) expenditures designed to provide for current services to be covered in full each year by current revenues, and (*b*) developmental or investment expenditures which may be balanced over longer periods, the length of time depending on the nature of the investment;

17. Consideration be given to organization of the budget according to modern principles of budgeting, differentiating between "current account" expenditures and "capital account" expenditures, this distinction being of help in appraising the true budget position;

18. The reporting of the position and movements of the public finances be improved;

19. Study be made of the possibility of utilizing Government trust funds to assist in the financing of productive development projects;

20. A commission be set up to study and report on the possibilities and the means for buttressing the local government structure by strengthening its financial basis.

PART I

DEMOGRAPHIC, EDUCATIONAL AND HEALTH PROBLEMS AFFECTING HAITI'S ECONOMIC DEVELOPMENT

CHAPTER I

Haiti and the Haitians

1. THE COUNTRY, THE NATION, AND THE FUNDAMENTAL PROBLEM

The Republic of Haiti, with its 10,700 square miles, occupies the highly mountainous and densely populated western part of the second largest island of the West Indies,[1] which it shares with its far more extensive but much less populous neighbour, the Dominican Republic.[2] The mainland of the country is shaped like a horseshoe, two peninsulas protruding westward from the central area to form the triangular Gulf of Gonâve, in the centre of which lies the Isle of Gonâve, a mountainous and now mostly barren island a little larger than Martinique. Equally barren is the smaller Turtle Island lying to the north of the northern peninsula, which points towards Cuba in the northwest. The elongated southern peninsula reaches towards Jamaica in the southwest. Thus Haiti is situated within the tropics.

Though the Haitian Republic is slightly smaller in area than Belgium, or of about the size of the State of Maryland in the United States, its total coastline is almost as extended as that of France.

"Haïti", the ancient name by which the aboriginal Indians called the island, means "Land of Mountains". The Republic is indeed more rugged relative to area than is Switzerland, for of its surface, transversed by three principal and many secondary ranges, almost four-fifths is mountainous. Elevations reach nearly 9,000 feet in the southern range, about 7,000 feet in the central range, and somewhat less than 5,000 feet in the north. At some places along the coast, plains flank or wedge into the highlands, and plateaux and valleys are interspersed among the mountains. There are seven larger plains, ranging in extent from 2,000,000 acres down to 20,000 acres, and fifteen plains of smaller size. The rugged mountain chains dissecting the territory of the Republic render land communications difficult and tend to fragmentize the country. Brown and Woodring[3]

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[1] The island is variously known as Haiti (Haïti, Hayti), Hispaniola (Española), or Santo Domingo (San Domingo, Saint-Domingue). Unless otherwise specified Haiti will refer in this report to the Republic rather than to the Island.

[2] The Dominican Republic comprises 19,300 square miles with a population of some two million people. Haiti's population probably exceeds three million (see page 29 below).

[3] Republic of Haiti, Department of Public Works, *Geology of the Republic of Haiti*, by Wendell P. Woodring, John S. Brown and Wilbur S. Burbank, Port-au-Prince, 1924.

delineate thirteen major geographic provinces or regions and numerous sub-regions.

The national independence of Haiti was proclaimed in 1804 after a protracted and fierce scorched-earth war of liberation from France, in which slaves and freedmen joined forces. Few States have begun their national existence in less auspicious circumstances. Having driven away its former masters, who had at no time conceded to the subject people any part in the conduct of public affairs, the country lacked a corps of trained administrators; it feared re-conquest; its economy was devastated and had to be rebuilt on a foundation different from the colonial economic organization based on slave labour. The new State lacked even the rudiments of an educational system.

Haiti came into existence as a linguistically and racially isolated nation of the Western Hemisphere long before the emancipation of Negro slaves had been achieved or even begun elsewhere in the world. At a relatively early date England, the Netherlands, Sweden and Denmark entered into diplomatic relations with the young State. France granted it conditional recognition as an independent State in 1825, when Haiti agreed to pay indemnities to former French property owners in the amount of 150 million francs, various issues of a loan for that purpose being floated on the Paris market. This amount was clearly in excess of Haiti's capacity to pay; a considerable reduction was therefore agreed in 1838, when unconditional recognition of the country's independence was accorded by France. Owing partly to apprehension of repercussions on the North American slavery issue, the United States withheld recognition until 1862.

New bases for the legal, social, and economic institutions were laid during the early decades of the nation's independence. A system of small holdings succeeded the plantation system of colonial times. The population would appear to have increased at a rapid rate during the succeeding century, but the economic development lagged as agricultural methods came to be enveloped in the traditionalism of an illiterate peasantry. Independence was maintained, but mistakes were made in the internal management of the State. Chronic political instability, inefficiency in the financial administration of the country and in the organization and equipment of its economy, and the unyielding pressure of a too-heavy external debt burden militated against the creative development efforts of earnest leaders.

In 1915, following a period of acute internal strife, Haiti was occupied by United States military forces, which remained in the country until 1934. A system of stringent financial control was instituted during the occupation and continued in modified form until 1941, when it was

further extended under an agreement that terminated in 1947 with the redemption by the Haitian Government of the entire balance of old (primarily political) debt restricting its freedom of movement in external financial relations.

Haiti today is a land of striking contrasts. At the apex of its social structure is a small, variously composed, educated class—commonly referred to as the *élite*—in possession of considerable technical skill and essentially western European culture and outlook. The great mass of the people, particularly in the countryside, is sharply differentiated from this group, not only by education, culture, and technical knowledge, but also by language, inasmuch as those belonging to the latter group—perhaps nine-tenths of the population—do not as a rule master French, the official language of the country. Their language, the Creole, originally derived from French, is, however, extensively used by the educated Haitians. Many of the cultural roots of the large majority reach back to African origin, although they have been profoundly modified by unique features of the evolution of the Haitian nation. As an integral part of any comprehensive programme for national economic development, if it is to succeed, effective educational methods must be devised to awaken the mass of illiterate country people and spur them on to higher levels of individual and community achievement.

Situated in the economic problem area of the Caribbean, whose relative contribution to world production and commerce has diminished on the whole over the past century and a half, Haiti lags in respect of economic development even more markedly than other countries and territories of the region with which it may be compared. Confronted by the dilemma of sustaining a steadily growing population on gradually shrinking land resources, its developmental task is desperately urgent. There is increasing awareness of this situation on the part of the Haitian authorities. The task which lies ahead requires the united efforts of all the Haitian people. In this task the generous and sympathetic assistance of the community of nations and particularly of the economically advanced members of that community is called for.

2. The People

(a) *Size and Growth of the Population*

There are no reliable statistics of Haiti's population, no proper census ever having been taken. An attempt at a census was made during the period September 1918 to August 1919, resulting in a figure of 1,631,000; but it admittedly did not cover the whole population and was incomplete also in other respects. An estimate of 1928 gave a total of 2,500,000, which seems more plausible. Subsequent estimates have put the total at

Typical peasant cottage: mud walls, thatched roof, usually single room, no sanitary facilities and very little furniture and household equipment. Cooking is usually done in the open air.

3,000,000 in 1940,[1] and 3,550,000 in 1947. But assuming that the estimate of 1928 was reasonably close to reality, both the 1940 figure and that for 1947 seem unlikely. If the 1940 estimate is assumed to be reasonable, that for 1947 would still be too high and the 1928 estimate rather too low.

Since births and deaths are very incompletely registered, no great reliance can be attached to indications of population growth derived from such data for Haiti. However, inferences might be drawn from the population statistics of comparable countries. In British Caribbean territories with essentially the same population stock as Haiti, but, on the whole, with better developed sanitation and health care, the rate of natural growth ranges between 1.3 and 2.0 per cent per annum. Judged on that basis an annual growth of rather less than 1.5 per cent would seem likely in Haiti. At the first session (in 1948) of the Economic Commission for Latin America (ECLA), the representative of Haiti stated that there were two and a half births to one death in Haiti. As a rough indication this ratio, equivalent to a rate of natural increase of 1.5 per cent per annum, may not be very far off the mark.

The official census to be taken in 1950, and which is now in course of preparation, will, it is hoped, make it possible to determine the actual size of the population within a reasonable margin of error. It remains to be seen whether the result of the census will corroborate our guess made on the basis of somewhat divergent evaluations by different observers to the effect that in 1948 the population figure may have amounted to somewhat more than 3,000,000. It may well turn out as high as 3,500,000, but probably not below 2,750,000.

(b) *Population Density and Occupational Pattern*

A total of something over 3,000,000 would mean an average density of roughly 300 people per square mile, which is higher than that of any other sovereign State in the Western Hemisphere and extremely high, indeed, in relation to the productive area of such a very mountainous country as Haiti, the inhabitants of which, moreover, depend for their livelihood almost exclusively upon exploitation of the agricultural resources. Only about a third of the total area of Haiti is considered tillable at present; it is estimated that there is less than one acre of tillable land per person.

A population density of 300 per square mile is higher in fact than that of most of the industrialized nations of the world. But among Caribbean countries and territories Haiti occupies a medium position on the scale of population density. In the Dominican Republic the density,

[1] Another estimate for 1940 puts the total as low as 2,660,000.

Rural market centre near Pont Estère. On market day thousands of people gather here to exchange their meagre produce: agricultural products, clothing, food, and essential household equipment, all of poor quality.

according to 1947 population estimates, was about 110 per square mile, in Cuba 117, and in Jamaica, with 4,411 square miles, it was 294, in 1943. On the other hand, in Puerto Rico, with 3,436 square miles, the population density was just over 600 in 1946; in Guadeloupe, with 688 square miles, it was 442, in 1940; in Martinique, with 385 square miles, it was 654 in the same year; the tiny island of Barbados, with its 166 square miles, is situated at the top of the density scale with as many as 1,159 persons per square mile in 1946.

It is not possible to state precisely the urban-rural distribution, as the population number even of the principal towns in Haiti has not been determined. The urban agglomerations are relatively few, however, and are believed to account for only about a sixth of the total population. As many if not most of these agglomerations are rather to be described as villages of a distinctly rural character, about nine-tenths of the population may be properly classified as rural.

Port-au-Prince has grown in size in recent years, and probably accounts, together with the adjacent residential town of Pétionville, for around 200,000 people. None of the other urban centres—the majority of them situated on the coast close to a natural harbour—probably has more than 30,000 inhabitants. Internal migration is oriented mainly from the provincial towns and the countryside towards Port-au-Prince, but the Government has recently fostered some settlement schemes in the rural area and has other such schemes under consideration, for while the population density is high, the people are not well distributed in relation to the resource potentials. Hence there are possibilities for further redistribution of the population on the basis of economic criteria.

Practically the whole of the rural population derives its subsistence from agriculture, including, for a small part, fisheries, charcoal making, lime burning, and rudimentary village handicraft. The townspeople gain their livelihood mainly from commerce and connected distributive trades and handicrafts, from Government employment (including employment with the National Bank), domestic service, to a relatively minor extent from industry, transport and communication services and, so far as the educated class is concerned, from liberal professions.

The occupational structure of the Haitian population shows a striking predominance of persons working for their individual account as proprietors, lessees or tenant-owners, usually with the assistance of the members of their families. Thus the proportion of persons employed for wages and salaries is very small, as is suggested by the following estimate for 1943 published by the United States Department of Labor:[1]

[1] *Monthly Labor Review*, vol. 59, no. 4, October 1944.

	Number of workers
Agriculture (and related industries)	83,500
Domestic service	75,000
Shop employees	12,000
Government (including the National Bank)	9,400
Railroads	360
Airways	150
Miscellaneous	1,830
TOTAL	182,240

The total shown, which may have been somewhat incomplete, represented only 6 per cent of the population—assuming that it numbered about 3,000,000 in that year.

(c) *Deaths and Births*

Because of the gross deficiencies in the registration of deaths, the mortality rate arrived at by striking the ratio between reported deaths and estimated total population is extremely low. During the period 1935-1944 it averaged about five deaths annually per 1,000 population, or approximately one-fourth only of the Puerto Rican rate for that period. Experts of the United States Bureau of the Census believe that only 20 per cent or less of the deaths that occurred during the period were officially registered, which would suggest that the true death rate lay between twenty-five and thirty per 1,000. Some indirect evidence that the death rate is quite high is afforded by the distribution by age of the average annual number of deaths occurring in hospitals during the years 1936-1943:

Total number of deaths	16,246
Age at death unknown	2,400
Age at death known	13,846

	Per cent
Under 1 year	15.4
1-4 years	12.1
5-9 "	3.8
10-19 "	6.6
20-29 "	13.2
30-39 "	13.1
40-49 "	11.6
50-59 "	8.3
60-79 "	12.3
80 years and over	3.6

These figures, showing a significant concentration of deaths in early childhood—27.5 per cent in the first four years of life—and in the age span of twenty to forty-nine years—37.9 per cent—with the age group of fifty years and over accounting for only 24.2 per cent, suggests a quite low expectation of life. As these statistics relate to the favoured few receiving hospital treatment—the medically cared-for fraction of the population—the preponder-

ance of early age groups among the great mass of deaths occurring outside the hospitals is presumably even more marked, which indicates a low level of public health and personal hygiene resulting in a serious waste of life caused by preventable diseases. Further evidence on this point is offered in part I, chapter III, Public Health Problems.

The registration of births is also grossly deficient. Thus, during the period 1935-1944, registered births averaged only seventeen annually per 1,000 of the estimated population, compared with thirty-nine per 1,000 in Puerto Rico during the same period; the true rate in Puerto Rico is believed to have been above forty per 1,000, allowing for inadequacies of birth registration. There is no *a priori* reason to suppose that the fertility of the Haitians is any less than that of the Puerto Ricans or of many other peoples in underdeveloped agricultural countries throughout the world whose birth rates range upward from forty per 1,000. The conditions generally associated with low fertility—namely, a high degree of industrialization and urbanization, high *per capita* income, and a high level of educational attainment—are absent in Haiti. If the birth rate is actually in the neighbourhood of forty per 1,000 and the death rate, as suggested above, somewhere between twenty-five and thirty per 1,000, it means that the rate of natural growth lies between 1 per cent and 1.5 per cent annually. At a rate of increase of 1 per cent, the population would double in seventy years, and at 1.5 per cent in forty-six to forty-seven years. Any one of the above rates for Haiti is hypothetical. The true rates and—more important perhaps for the economic development policy—their trends will remain unknown until an adequate system of vital statistics so essential for a modern State has been developed.

Some observers believe that the population of Haiti has grown rapidly over the past thirty or forty years. Part of the natural increase was diverted, particularly in the 1920's and early 1930's, through emigration of Haitians seeking work in the sugar fields of Cuba and the Dominican Republic. Subsequently, however, the repercussions of the world economic depression on the sugar industry caused a reflux of Haitian workers from the former country, and many of the emigrants to the latter came back to Haiti in the late 1930's seeking refuge from acts of repression perpetrated against them in 1937. The number of resident foreigners in Haiti is small, though there have been slight accretions in recent years, especially of European refugees.

Naturalization laws are now more liberal than was the case during the early history of Haiti when as an aftermath of the fight for independence immigration was discouraged. The 1946 Constitution and other laws contain certain provisions which in principle restrict foreign ownership of real

estate and the exercise of business by foreigners.[1] In actual practice, however, not all of these provisions are now enforced.

(d) *The Population Problem viewed in relation to Economic Development Needs*

The central economic problem of Haiti is so to expand its national product in relation to its population as to increase the real income per head and so distribute it as to raise the general standard of living.

The present situation is characterized by heavy population pressure on the limited and little-developed material resources. In order to achieve a rise in the standard of living the economic development must proceed faster than the growth of the population. Given the primitive state of the education of the average Haitian and of his grasp of economic realities, there is no prospect that the rate of natural growth of the Haitians will be restrained for a long time to come, save by the check of ill-health and other factors causing an extremely high mortality, which implies a deplorable waste of life. On the contrary, as shown by experience elsewhere, it is rather to be expected that amplification of the material basis for the life of the nation and improvement of public health conditions will have the initial effect of enhancing—at any rate for a transitory period—the natural growth of the population, which will thus tend for some time to absorb the gains from economic development. For by extending and improving sanitation and medical care and raising the standards of hygiene, it is possible in the comparatively short run to reduce mortality, while fertility, governed by deep-rooted behaviour, is influenced only in the long run by the spread of education and gradual change of ideas and social environments.

Serious consideration should therefore be given to the possibility of encouraging emigration as a means of neutralizing this tendency and of relieving the acute population pressure. There are in the general orbit of the Caribbean sparsely populated countries—whose population is largely of

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[1] The most important of these provisions are:

(*a*) Resident foreigners or foreign companies conducting business in Haiti may own real property only when required for their agricultural, commercial, industrial or educational enterprise "within the limits and conditions to be determined by law". The right of ownership terminates after two years if the foreigner has ceased to reside in the country or if the company has ceased operations. Thereupon the Haitian State becomes the legal owner of these properties;

(*b*) The exercise of commerce by foreigners is to be confined to the ports open to foreign commerce, i.e., Port-au-Prince and eleven other coastal towns;

(*c*) The *patente* (business licence fee) payable by foreigners is twice that payable by Haitian nationals. This fee is quite small;

(*d*) The exercise of retail trade and of the profession of *spéculateur* (middleman buyer of coffee from the peasants) is reserved to Haitian nationals;

(*e*) Only native-born Haitians are qualified to direct operations of handicraft industries utilizing such local materials as mahogany (which has become scarce) and sisal fibre.

Of the above provisions only (*a*) and (*c*) would appear to be enforced at present.

the same stock as that of Haiti—which have made known their willingness and desire to receive immigrants to help develop their natural resources. Emigration from Haiti should preferably take the form of moving whole family units from over-populated agricultural areas for permanent settlement in the country of immigration. The emigration which has taken place in the past has been largely seasonal or temporary, and has primarily concerned individual agricultural labourers recruited for work in neighbouring countries. This movement has practically ceased. Such limited emigration as now takes place from Haiti comprises mainly persons in possession of skills, or precisely those persons who are most needed at home to help in the development of the country.

The gravity of the population problem raises important questions bearing on the orientation, organization and conduct of a national development effort. Economic development, the launching of which is always attended by some risks, must eventually be undertaken on a scale sufficiently comprehensive to constitute not merely a series of small improvements which will be neutralized by continuous population increase. In view of the limitation of the investment resources at present available or in sight, great circumspection must be exercised in the selection of development projects, those likely to be most broadly productive and thus capable of providing a basis for additional ventures hastening the tempo of development to be chosen in the first instance. Moderate expenditure on well-chosen specific projects of rural development, intimately integrated with a practical programme of education, can increase more than proportionately the output of Haitian agriculture and at the same time, in encouraging active co-operation and initiative to self-help on the part of the population in rural communities, foster those institutions necessary for sustained progress.

Proper balance will have to be sought between the developmental activities in the different economic and inter-related social fields. The development of fisheries and of forestry should be blended with that of agriculture which, in realizing improved production techniques, will release surplus manpower now inefficiently employed, and should therefore be interwoven so far as possible with the promotion of supplementary industrial and handicraft activities capable of employing gainfully part at least of that manpower surplus. To that end the effort at fundamental education should in large part be concentrated upon the population at or approaching productive age, the shaping of the educational programme to be closely geared to the economic requirements of the country. Similarly, it is important that in the effort at ameliorating public health conditions primary emphasis be placed on reducing those diseases which cripple the labour efficiency of adults and the remedying of which will therefore improve productivity and hence assist

in the economic development. In Haiti such a programme will be above all a rural public health programme.

3. Income and Standard of Living

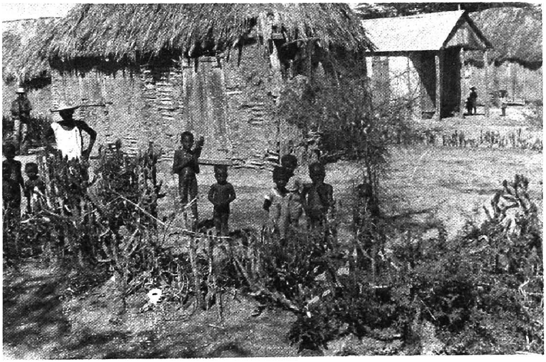
Haiti lacks most of the basic statistics required for any direct estimate of the national income. Such indirect estimates as have been attempted on different occasions in the past rest of necessity on somewhat arbitrarily chosen criteria. One estimate made for the relatively favourable fiscal year 1927/28 by United States authorities placed the *per capita* income at about $25 and the aggregate national income at roughly five times the Government revenues, then amounting to nearly $10 million. A later estimate[1] relating to the last years before the war again worked out at approximately $25 *per capita*. In a country where production for subsistence constitutes as substantial a proportion as it does in Haiti, the uncertainty attaching to any estimate of national income in monetary terms is so great as to deprive it of true numerical significance. Despite the very large margin of error involved, however, any such estimate for Haiti serves to demonstrate the fact that the national income is extremely low, though no precise comparison with the national income of more industrialized or agriculturally more developed countries can be made.

Whether national income *per capita* was in fact maintained between 1927/28 and, say, 1937/38--as the estimates cited above suggest—is open to doubt. Reference to the table on the foreign trade of Haiti over the period 1916/17 to 1947/48 given in part II, chapter IV, B, section 1, and the movement of which is further illustrated in chart I, page 211, will show that the value of exports indicative of that variable part of the national income which is derived from production for sale abroad dropped very sharply, indeed by about two-thirds, between the boom year 1927/28 and the 1937/38 year of recession. As this income item normally looms large in the economy of Haiti, the national income *per capita* must have shrunk substantially over that period. The reduction in the value of exports reflected mainly a fall in price of principal Haitian products on external markets, which, in conjunction with the simultaneous contraction of the quantity of the products exported, had the effect of reducing the imports—practically all of the nature of necessities—in nearly the same proportion as the exports declined. Between 1937/38 and 1946/47-1947/48, on the other hand, the value of exports rose sharply from 35 million gourdes to about 155 million (average for the last two fiscal years) or by 343 per cent. The

[1] Don D. Humphrey, chapter XV, "Haiti", page 365, in Harris, Seymour E. (editor), *Economic Problems of Latin America* (New York, U.S.A.: McGraw-Hill Book Co., Inc., 1944).

wartime and post-war rise in prices[1] may have accounted for some two-thirds of that increase, which would nevertheless mean that the "quantum" of exports was augmented by somewhat more than 100 per cent, reflecting a substantial accretion to the national income. Compared with the inter-war peak of 113 million gourdes reached in 1927/28, the value of exports of the last two financial years had risen by 73 per cent. Since the prices fetched abroad by Haiti's principal export articles would appear to have been about as high in 1927/28 on an average as in 1947/48, the whole of the value increase probably represented an expansion of the quantum of exports. Whether the income accretion resulting from this expansion in new products little developed in the 1920's was large enough to do more than compensate for the decline in the more traditional lines of production is very difficult to judge. The year-to-year growth of population taken into account, however, it seems unlikely that the national income *per capita* in 1947/48 was any larger than, if as great as, twenty years earlier.

[1] Judging by an index of world market prices for major Haitian export goods calculated by the United Nations Secretariat in its study of terms of trade between underdeveloped and industrialized countries, Haitian export prices in 1947 were on an average 227 per cent higher than in 1938.



Large rural families living in small huts on the lands to be developed in the Artibonite Valley Project. Success of this project may depend upon how effectively these families can be induced to exchange their claims to small plots of ground, on which a meagre living is produced, for an opportunity to improve their status by working with better equipment and under close supervision as members of the Project.

While no precise statistical comparison can be made, various socio-economic indicators, such as the proportion of children attending primary schools, educational expenditures, exports and government revenues *per capita*, point to an appreciably lower national income *per capita* in Haiti than in the neighbouring countries of Cuba and the dominican Republic, in Puerto Rico (whose development has been heavily subsidized by the United States) and indeed in most other countries of Latin America.[1]

Studies made of family income in the Plaisance region in the north of Haiti, in the Marbial Valley in the south, and elsewhere, show that the cash income of the average peasant is next to negligible and the level of subsistence extremely low on the whole, the family income being barely sufficient to meet even rudimentary requirements of food, clothing, and shelter.

The majority of the rural population and a large part also of the people living in the towns show signs of under-nourishment and a poorly balanced diet. We observed some variations in the consumption of milk and proteins as between regions, but even in the areas where the food intake seemed higher than the average a substantial proportion of the people were apparently under-fed or ill-fed.

Rural housing in particular is quite primitive and generally inadequate. The Government has received technical advice from a United States expert who in October 1948 wrote:[2]

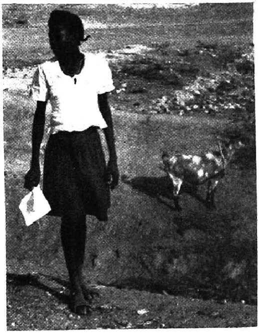
"The family has limited resources with which to rent a home, let alone buy a house. Consequently, it has been the tradition over more than 100 years for most Haitians of low income to build their own homes. The typical house consists of a single room, usually with less than 100 square feet, bare dirt floor, wood frame construction, woven clay mixed with grass (not unlike the adobe walls found in the southwestern United States and Mexico) and a thatched roof. The homes have no sanitary facilities or running water. The cooking is done on the ground outside, over a metal brazier and charcoal fire. A handmade bed, chair, chest, counter and metal eating utensils are all one usually finds inside. The more fortunate families have a community privy nearby. The land is frequently rented from a large land owner. Sometimes a plot of ground is handed down from father to son and is owned outright and sometimes the dwelling or shack is built on public property. Thousands upon thousands of Haitian families in urban as well as rural areas live in this fashion. Generations have lived in this same way."

We have not examined the housing problem as such in any detail, as no such study was envisaged in the terms of reference of the Mission. We wish

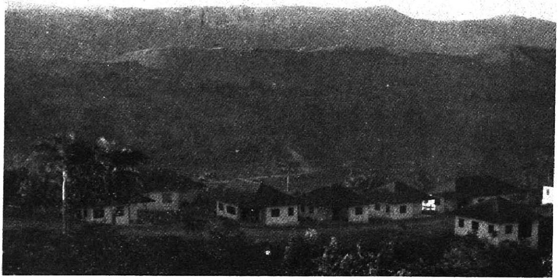
[1] See comparisons made by Louis R. E. Gation in *Aspects de l'économie et des finances d'Haïti*, Port-au-Prince, 1944.

[2] Bourne, Philip W., *Housing Study of the Republic of Haiti*, prepared in consultation with the Office of the Administrator, Housing and Home Finance Agency, Washington, D.C., October 1948.

Heavy head loads are carried by old and young.



Country woman wearing customary dress of coarse white or blue cloth.



Improved housing at Belladère. The new agricultural colony of Batiste is on the heights beyond the first ridge.

to note, without implying any elaborate consideration on our part, that the report here quoted contains suggestions as to minimum standards and presents a general outline of a long-term housing programme based in part on the principle of self-help among the persons directly concerned, combined with special long-term financing. The report in question does not enter fully into the problem of rural housing, but a great deal of literature is available on the subject of tropical rural housing and village and town planning which would seem pertinent, and competent architects are to be found in Haiti.

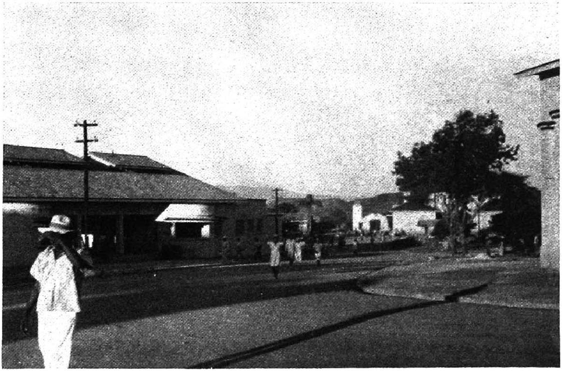
The Government has under consideration various projects involving the construction of new or the remodelling of existing villages and community centres in key areas. These projects are designed to set higher standards of rural housing and to form nuclei for the concentration of the presently widely dispersed population into settlements affording possibilities and facilities for the development of community life.

The population is generally ill-clothed; many have no shoes, and relatively few outside the educated class wear them regularly. This fact is of importance with regard to health conditions, inasmuch as certain of the tropical diseases of high incidence in Haiti, notably hookworm, are transmitted by way of the skin.

The greater part both of the urban and the rural population cannot afford to pay much for the care of their health. Medical care is very inadequately provided for in the rural areas, which without exception are in great need of public health facilities to extend medical services to the people.

As in many other little-developed countries, wages in Haiti are low. A minimum wage of 1½ gourdes ($0.30) per day of work was fixed by law in 1939. In 1945 it was raised to two gourdes ($0.40) to take effect in January 1946. The new Constitution introduced after the 1946 Revolution guaranteed to labour the right to unionize and to bargain collectively. Subsequently the legal daily minimum wage was raised in two stages to 3½ gourdes ($0.70). Employment for wages, however, as is suggested by the occupational picture roughly outlined on page 32 above, has not yet become a very important factor in the Haitian economy. The number of people to whom the minimum wage is applied in actual practice, therefore, constitutes but a small fraction of the country's population.

For the economic development of the country the relation between wages paid and the productivity of labour is of importance. In the absence of any adequate statistical measures of the trends of productivity, the Mission examined the legal and administrative arrangements for adjustment of rates in accordance with the economic conditions of the various industries. We found in general that there is adequate provision for flexibility downward in cases of hardship, but that precise criteria for hardship were not clearly established.



Portion of model town of Belladère near the Dominican border. This town, with its model buildings, well laid out streets and electric lighting system, must depend upon a greatly enlarged agricultural development in the vicinity or on an increased tourist trade for its economic well-being.

Provision for upward adjustment in case of improvement in productivity and in the general condition of the industry were not as adequately formulated as might be desired. A considerable burden of review was consequently placed on the Bureau of Labour, whose small staff was found alert to the economic factors to be considered in the discharge of its functions.

While these findings are mentioned at this point, the principal conclusion as to the standard of living is that labour is so abundant relative to effective demand and to conditions bearing on its productivity that wages are low. An unskilled labourer, if fully employed at the legal minimum wage, would realize an annual income in the order of 1,000 gourdes ($200).

CHAPTER II

Education

Education can play a major part in freeing the people of Haiti from want and fear. The importance of orienting education so that it may further the desired material progress of the nation has not been fully realized in the past, even in cultured circles in Haiti. The lack of a basic education code with its underlying political and educational philosophy makes it difficult to orient the teachers and to evaluate changes in the programmes. Spokesmen of the younger generation feel that Haitian unity and progress will depend for their realization upon the creation of a *mystique nationale*, by which they mean a passionate faith in the destiny of the Haitian nation.[1] This sentiment seeks its inspiration in the heroic deeds of the great leaders of Haiti's wars of independence—Toussaint Louverture, Dessalines, and Henry Christophe. Yet, in the words of an outstanding Haitian writer, who gives the national purpose a broader and more realistic formulation, "the age of heroic hopes and grandiose projects has passed; what they (the Haitians) desire today is to secure for the nation which they have founded, order and well-being in an atmosphere of peace by bringing all their moral force to bear on the development of their economic resources".[2] It would be difficult to find a better statement of the philosophy which should guide the Haitian educational effort.

1. Structure of the Educational System

Before entering upon an analysis of the major problems confronting Haitian education, it may be well to give a brief summary of the general structure of the educational system.

The Haitian school system is centralized under the Ministry of National Education. Until the 1946 Revolution rural education was under the supervision and control of the Ministry of Agriculture. Curricula for public and private schools are fixed by the Government. Urban elementary education is divided into six two-year courses for children from the ages of four to fifteen. On completion of a six-year primary school course (ages six to eleven) the Certificate of Primary Studies is awarded. The following two

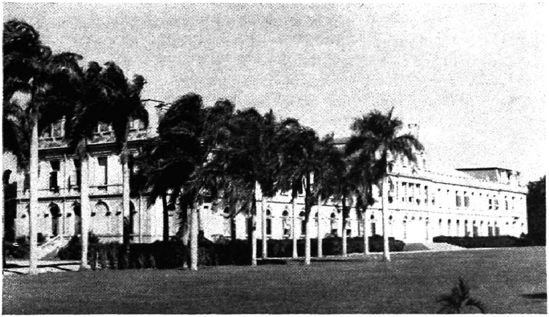
[1] Pierre, P., Ambroise, E., Devieux, S., *L'Ecole haïtienne et quelques-uns de ses problèmes*, typewritten report to Ministry of Education, Port-au-Prince, Haiti, 1948, 51 pp. See pages 12-13.
[2] Bellegarde, Dantès, *La Nation haïtienne*, Paris, G. de Gigord, 1938, page 351.

years of the so-called Superior Primary Course entitle passing pupils to the Elementary Certificate, and the last two years to the Superior Certificate. All certificates are awarded on the basis of written and oral examinations. The rural school system covers a six-year period, divided into three two-year courses called Beginners, Intermediates, and Advanced. Pupils who complete the six-year cycle are entitled to take the examinations for the Primary Certificate. The system includes farm schools, rural schools, village schools, and communal schools. There is a special farm school for secondary school age students at Châtard. Religious and private schools complement the public schools in both urban and rural areas.

Teacher training is provided in official schools at Damien and at Matissant, both on the outskirts of the capital, and also in the Elie Dubois Vocational School run by the Belgian Sisters in Port-au-Prince. The teacher-training courses of three years' duration in the two official schools accept students who must generally have completed at least four years of the seven-year secondary school course.

Secondary education is offered in ten public *lycées* and twelve private schools. Most of these facilities are located in the capital, including Pétionville. The religious secondary schools require payment for tuition and are favoured by the middle class of Haiti. Admission to secondary schools is on the basis of the Certificate of Primary Studies and of an entrance examination. The first three years of the secondary curriculum are called the Grammar Division, the last three or four the Humanities Division. The baccalaureate degree at the end of the secondary school is awarded on the basis

School children playing on the school grounds in Marbial Valley Project. In this co-operative project of the Haitian Government and UNESCO, methods are being sought to develop a programme of fundamental education.



Agricultural College building at Damien, not only the seat of the Extension Service, the Experiment Station and the College, but also a training school for rural teachers.

of two major examinations, the first given at the end of the sixth year (*rhétorique*), the second after the seventh and last year (*philosophie*).

Vocational education is provided at both the upper elementary and the secondary level in nine vocational or pre-vocational schools, four of which are located in the capital.

The University of Haiti at Port-au-Prince was formed by bringing together a number of separate or autonomous schools of higher education. It comprises the Law School, the School of Science, the College of Medicine, the School of Pharmacy, the School of Dentistry, the Polytechnical School, the Superior Normal School for Secondary School Teachers, the National School of Agriculture, and the Institute of Ethnology.

Enrolment in all urban primary schools of the country during 1946-47 was 48,996, in secondary schools 7,450, and in vocational schools 1,518. Rural schools showed an enrolment of 52,667 during the same period. The educational budget for the public schools amounted to 5,423,579.25 gourdes ($1,084,715.85).

2. Criteria for the Educational Effort

What are the basic realities which education in Haiti must take into account when thinking of the country's future?

As pointed out above, the Haitian population, almost entirely rural, is highly dispersed over the mountainous surface of the country. Market centres with permanent population concentrations are few. A survey made

in recent years by an American educator reports that schools were available for only one-fifth of the children of school age.[1] The most recent survey of a committee of distinguished Haitian educators claims that only one-sixth of Haiti's children are in school.[2] Some 85 per cent of the population of Haiti is illiterate. The close companions of illiteracy—poverty and disease—occupy a prominent place among the national problems. Unless a chance for a minimum of fundamental education is provided, there is no possibility of raising the health and productive capacities of the people, especially in the rural areas. Only by a planned and continuous development of the human resources can the national resources of Haiti be appropriately utilized as a basis for a widened range of economic activities.

The criteria for the educational effort here envisaged are:

Relevance to the improvement of the standards of living and production of the Haitian population;

Evidence that most of the national and foreign personnel needed can be secured without too great expense to the Government.

Guided by these criteria, the Mission recommends that as a basis for improving education to help in the economic advancement of the nation the Haitian Government undertake:

(1) An intensive national effort to reduce illiteracy through the teaching of Creole and French;

(2) The preparation and publication, at Government expense, of a series of basic readers for the literacy campaign, and of a minimum series of elementary school books for all the school children of Haiti;

(3) The initiation of a practical industrial training and apprenticeship programme;

(4) The extension of the community school programme of the Rural Education Department of the Ministry of Education.

Considering the number and importance of the rural population of the country, the more specific proposals made below for educational improvements in Haiti deal primarily with fundamental education. The apparent neglect of urban, secondary, and higher education is justified at this time only by the principle that "first things come first".

3. Reduce Illiteracy

French is the official language of the Haitian nation. To be part of the great stream of French culture is an asset of inestimable value for Haiti. French literature, philosophy, and political thought have decisively in-

[1] Cook, Mercer, *Education in Haiti*, Bulletin 1948, No. 1, Federal Security Agency, U.S. Office of Education, Washington, D.C., page 62.

[2] Pierre, P., Ambroise, E., Devieux, S. *L'Ecole haïtienne et quelques-uns de ses problèmes*, typewritten report to Ministry of Education, Port-au-Prince, Haiti, 1948, 51 pp. See page 6.

fluenced and directed the formation of the modern democratic world. French has for centuries been the language of diplomatic intercourse. It is one of the original working languages of the United Nations, of which Haiti is a Member. Mastery of the French language not only opens the doors to the greatest treasures of western civilization, it is also a suitable instrument with which to share in the scientific and technological progress of the modern world.

To what degree can Haiti claim the possession of this great cultural instrument as an asset to its national life and prosperity? At best, only 15 per cent of the adult population can speak and write French. The existence and the use of a spoken language, side by side with the written, official language, is a common phenomenon among some of the most advanced peoples in Europe. When compulsory education and adequate schools and teachers enable the children of a nation to become literate, the question of class distinction based on language differences does not arise. As soon as this goal has been reached in Haiti the present differences of opinion as to the relative merits of teaching Creole or French, or Creole as a stepping stone to the more rapid mastery of French, will be purely academic. The undeniable fact is that at present all Haitians speak and understand Creole, but that French has very little functional use in the lives of the peasants who live in isolation from the main stream of commercial and cultural activities. If language is a carrier of culture—and it is so understood by educated people all over the world—then it must be an integral part of the spiritual and emotional life of a people. In their formative years most Haitian children think, feel, and express themselves in their mother tongue, which is Creole. For them, French when it is taught in school is an auxiliary language, and remains so until such time as they can share as playmates or as adults in the common command of the national language.

Learning is based on experience. It is an elementary law of learning that one passes from the known to the new and unknown. Language makes it possible to have vicarious experience. A language that is not spoken or used cannot serve as a vehicle for direct or vicarious experience. It seems logical, therefore, to develop a method of teaching French to the rural population which is based on previous ability to speak, read, and write the native language. The linguistic and phonetic relationships between Creole and French are strong enough to make possible a rapid transition from the former to the French. In urban areas where the use of French is current, literacy classes in French are required. The adult classes for literacy in French could serve employees, soldiers, workers and servants for whom the knowledge of spoken French and a minimum reading knowledge is of immediate value. A special course for teachers should be planned to develop a

more rational method than the present memorization technique of teaching French to children in the beginning years of elementary school. The teaching of English would be valuable in the vocational schools and courses, since most of the technical manuals and guides for vocational and industrial training are available in English only. Using and demonstrating identical methods for the teaching of English and of French would serve as a double check and guide for the problems to be faced in the Creole teaching campaign.

The reduction and elimination of illiteracy in Haiti is a national and patriotic duty. Neither political nor class differences should interfere with this task. Technical assistance for the preparation of the teachers and of the materials and methods to be used can be secured through UNESCO. All that is needed to succeed is sincerity of purpose, non-partisan support, and persistence. To this end the Mission recommends that:

(*a*) A small and representative committee of interested Haitian leaders be formed to draw up the programme and the policies to be followed in the national literacy campaigns for French and Creole;

(*b*) A Literacy Department be established in the Ministry of Education to take charge of all activities related to the efforts to reduce illiteracy in Haiti;

(*c*) The Government consider the advisability of setting as a definite goal of achievement the reduction of illiteracy by 1955 to 50 per cent of the population above seven years of age.

4. Books—Essential Tools of Learning

Textbooks from France or Canada are used in some of the schools. A few history or geography books have been written by Haitians, and the Christian Brothers of Canada have published some readers with Haitian background. The Haitian Government does not provide free school books, and most parents are too poor to buy them for their children. Education without school books and supplementary reading materials can only perpetuate Haiti's non-literary culture. To become a useful instrument for the forging of Haitian nationality, education must teach children and adults to use and love books as keys to the experience of the human race. Such books should be written by Haitians for Haitian children. They should describe the life and problems of Haiti, and should be practical in pointing to a better way of life through understanding, self-help, and organized community life. They should encourage and direct activities which satisfy the emotional and social as well as the intellectual needs of children. Without books to learn from and to read with pleasure and profit, children and adults will soon forget their knowledge and lose the reading skill.

During the last war airmen of the Allied armies were all given two books —*How to Land and Survive in the Arctic*, and *How to Land and Survive in the Tropics*. The knowledge and information acquired through the reading of these books saved many lives. The Haitian people are in a critical situation as far as survival is concerned. The right kind of school books dealing with food production and soil conservation, protection against malaria, hookworm, yaws, or tuberculosis, the making of household equipment and agricultural tools, the proper care and use of animals, the making of charcoal and lime without wasting scarce firewood, could turn books into weapons for survival. Such books or series of books, pamphlets, almanacs, or periodicals, have been prepared for children and adults of other countries. Haiti could profit from their experience. Present techniques of reproduction and printing have reduced the costs of publication of school texts to a reasonable minimum. Varitype, multilith, and offset printing processes make the installation of a Government printing service for textbooks possible today, even for smaller countries with limited budgets. The Insular Bureau of Education of Puerto Rico has recently established such a publication service for all types of printed matter needed in its educational institutions.

A graded series of readers for the six years of the elementary school course is a necessity in Haiti. Equally important are arithmetic and elementary science work-books. The preparation of such a series of books would be a major undertaking for which technical assistance should be sought outside of Haiti. The Government's investment in the free distribution of school books would be amply repaid in greater effectiveness of its educational efforts. It is of little use to build schools without equipment or teaching materials; it is even more futile to try to teach and learn without books.

If serious efforts are made to reduce illiteracy in Haiti, the preparation and publication of reading matter in Creole and French for the newly literate is vital. Excellent basic series and collateral reading material have been produced in certain Latin-American countries—particularly Mexico and Brazil—which have undertaken long-range campaigns against illiteracy. Technical assistance for this task should be sought. The UNESCO Fundamental Education Clearing House is ready to assist the Haitian Government with sample materials from many different countries.

As a means of achieving the desired improvement in literacy, the Mission recommends that the Government undertake forthwith the preparation, publication and distribution of:

(*a*) A basic series, in Creole and French, of elementary textbooks and supplementary materials for the school children;

(*b*) Appropriate basic readers and almanacs, as well as a weekly periodical in Creole;

(*c*) A special service for carrying out this task should be organized in the Publications and Textbooks Section of the Ministry of National Education.

5. Vocational Education and Industrial Training

The use of automotive and electric power is increasing rapidly in Haiti. Construction activities in housing and public improvements are especially noticeable in or near the capital. Sugar mills and oil extracting plants are working at full capacity, and at a newly established modern plant for cotton spinning and weaving the training of workers is in full swing. The banana and sisal industries, land reclamation and irrigation works in the Artibonite and elsewhere, and various sanitation projects call for an increased number of workers. Only a minor proportion of these workers are now being prepared through vocational education and training. The student body of the only real vocational school, that of the Salesian Brothers in the capital of Haiti, consists of eighty students, twenty of whom are graduated each year. Four trades are being taught in that institution: carpentry, tailoring, shoemaking, and mechanics. The tailors and cobblers learn their trade on an individual artisan basis, with no modern tools and machinery. The work in mechanics consists primarily of rebuilding motors and machine shop equipment, including simple foundry work.

The two apprenticeship and pre-vocational schools in the capital are inadequately planned, staffed and equipped. Their curriculum follows the antiquated patterns of some four basic trades—tailor, cobbler, carpenter, and tinsmith—with classes so large that no individual teaching or supervision is possible. The *Maison Centrale* is a combination of orphanage, reformatory, children's home, and elementary trade school. It lacks tools, shop equipment, and supplies. Even good teachers, if they were available, could not cope with the heterogeneous mass of youngsters sent to the institution. The Apprenticeship School is housed in fairly modern buildings just outside of town. It has possibilities for practical training and outdoor activities, but lacks a proper curriculum, staff and supervision. Several of the provincial towns still have remnants of the vocational training programmes established during the time of the American occupation of Haiti. Again, lacking trained teachers, supplies, and guidance from specially prepared supervisors, these schools can do little to increase the appreciation of a practical education in Haiti. That the need for trained workers is great, is shown by the fact that twelve of the graduates of the vocational courses in Cap-Haitien last year found immediate employment in local plants.

The only vocational school of the secondary type, J. B. Damier in Port-au-Prince, is now in the process of reorganization. The plan for the development of this school provides for a three-year training programme for skilled workers, and an additional three-year programme for the abler students to become foremen and technicians. The physical capacities of the present buildings could take care of 200-250 students. Admission is set now for 400. There are a limited number of worn-out hand tools, some woodworking machinery, one forge, and a welding set. The automobile mechanics shop lacks both teacher and equipment. The desire to make vocational education respectable in Haiti has led to an ambitious plan of setting up a full academic secondary curriculum, a vocational, and a polytechnical programme in the same institution. In view of the lack of vocational education facilities and of the great need of skilled workers, it would seem advisable to turn the J. B. Damier school into a purely vocational school. It should select its students on the basis of a primary school certificate and some evidence of mechanical aptitude and interest. The first two years of the curriculum should be devoted to general shop work and a basic academic programme comprising French, arithmetic, elementary notions of geometry, general science, English, and drawing. The specialized trades courses should last from two and a half to three years. The certificate should be awarded on a job and performance basis to encourage able students to save half a year. The following courses should eventually be offered either in day classes, part-time trade preparatory and extension classes, or through evening and general continuation courses: auto mechanics, machine shop, welding, electric motors, electric wiring, plumbing and pipefitting, carpentry and woodworking, furniture-making, masonry and stucco, radio. Elective or special classes should be organized in leather work, wood-carving, printing, refrigeration mechanics, meat preparation, and power sewing machine operation.

The vocational school of Caguas in Puerto Rico (300 students) is a good example of what can be done in a small-scale vocational school which is staffed by experienced and competent teachers and is provided with the necessary budget for equipment, maintenance and supplies. Vocational education needs no special defence against the prestige of the classical or academic curriculum. The economic value of skilled workers is ample compensation for the lack of a Bachelor of Arts degree.

In the absence of any effectively functioning vocational school with adequate resources and personnel and with a curriculum answering present-day needs, the initiation of a practical industrial training programme should be considered. The establishment of a central garage and service station in Port-au-Prince for all Government-owned motor vehicles

could provide opportunities for twenty to thirty young men every year to go through apprenticeship training while actually earning their maintenance. Such a shop should be organized and directed preferably by an experienced foreign master mechanic. If another specialist could be brought in to teach the theoretical classes, the nucleus of a technical training programme could be provided. Eventually the initial training activities could be located in separate rooms or in a separate building. When the new reformatory building is completed, a similar arrangement for furniture-making, woodworking, and power sewing machinery use could be initiated. The co-operation of industrial enterprises and such projects as the Artibonite development enterprise could furnish opportunities for supervised on-the-job training of mechanics and construction workers.

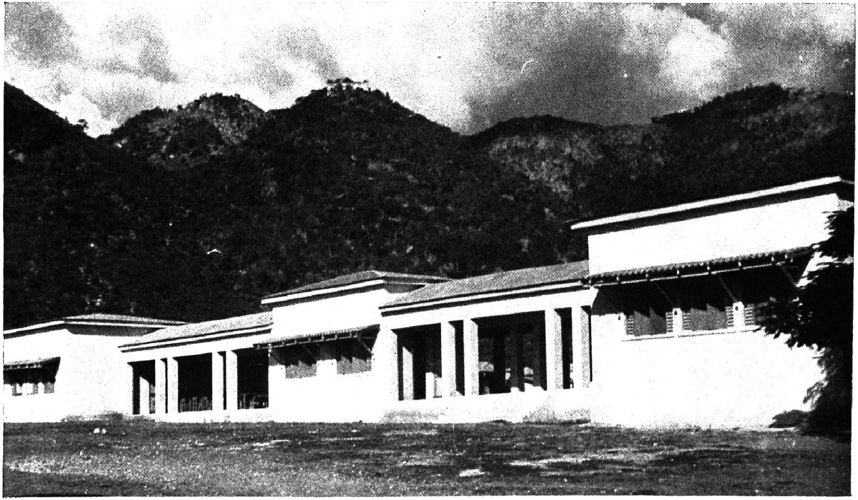
In general it is to be recommended that the Haitian Government employ one or two outside vocational education specialists for, say, half a year, to make an occupational survey and study the possibilities and required facilities for the training of skilled workers. Past experience with teachers or students who were sent abroad for technical training indicates that the higher pay available in private enterprises deprives the schools of the services of vocational teachers. It is probable that the training of vocational teachers and supervisors by specialists brought to Haiti on a contract basis would be more economical and practical for a time.

Vocational guidance and a placement service are considered today integral parts of a vocational education programme. In view of the high cost of technical education and training, fitting the right person to the proper job becomes a necessity. The co-operative training programmes in the United States have demonstrated the value and practicability of combining study and work experience to the satisfaction of students and employers. Competent supervisors who know the trades they teach could probably find a few employers in Port-au-Prince or Cap-Haitien who might be willing to work out such a co-operative arrangement with the vocational schools.

The Mission recommends that:

(a) The present plans for the reorganization of the J. B. Damier Vocational School in Port-au-Prince be so revised that a unified vocational programme can be developed at the school, and—as a minimum requirement—that the existing shops be provided with adequate tools and modern equipment;

(b) Serious consideration be given to the proposal for the establishment of a central Government garage and repair station with training facilities for apprentice mechanics.



Public school below one of the old forts of Dessalines serves people of this historic town. Other towns of similar size are not as well equipped and schools serving the rural population are inadequate.

6. Community Schools

The dispersal of rural properties and dwellings, the lack of roads and of adequate police protection, have proved a very serious obstacle to the development of rural communities in Haiti. Without community centres or cores, essential public services for the protection of health and property and for the promotion of education and of agricultural production are impossible. In order to enlist all Haitians in the programme of national rehabilitation, the organization of villages or rural centres is a necessity. Any scheme for the development of rural communities must be accompanied by a nation-wide effort to provide a minimum of fundamental education for the rural people of Haiti. Such educational efforts should consist in teaching the peasants the simplest notions of hygiene, government, science, tools and machines, and how to use the skills of reading and writing in their daily activities.

When the Mexican Cultural Missions began their work in rural education more than twenty-five years ago, they found about the same problems and meagre local resources as are now confronting Haitian educators. To be sure, native villages had been in existence for a long time in Mexico, while very few such aggregations exist in Haiti. The Mexican idea of fundamental education was to identify education with the life of the community, however primitive and poor it might be. The Cultural Missioners were convinced that education in such a setting would have to be of immediate use to the inhabitants; otherwise they could see no place or need for it. Once the elders became aware of their latent capacities to improve the local resources for their own benefit, the notion of a community centre or school took on a useful meaning. The teachers in these community schools had to be versatile and resourceful. They had to be doctors to men and beasts, to know how to build a house or a well, to lay out and start gardens and irrigation schemes, to show how to make furniture and to prepare leather. They taught people how they could do together what one alone could not accomplish. They organized recreational activities and co-operatives, helped settle disputes fairly and in accordance with the mores of the people. Finally, they had to demonstrate through their teaching that knowledge was more useful than superstition.

The pattern of a Haitian community school is in the making. It is true that the ninety-one farm schools (*fermes-écoles*) which were reported functioning in 1945 have fallen into the regular pattern of rural schools, in which little practical training in agriculture is possible because of the lack of trained teachers, equipment, and land. The new orientation schools (*écoles d'orientation*), however, give promise of developing into real community schools. In addition to regular six-year elementary school

programmes, these schools, three in number, have a school kitchen, a first-aid station, adult classes for women in nutrition and sewing, and literacy classes. They are staffed by men and women teachers who received special training in summer courses last year. Since their work extends beyond the school walls and includes home visits and community activities, the teachers are called "social missioners". The need for their services is so great that the present allotments for materials and equipment are completely inadequate. Moreover, the Social Missions are not yet receiving the co-operation from the Public Health and Agriculture Departments which are so essential for health education, disease control and agricultural work. The Department of Rural Education in the Ministry of Education should be in a position to call for and receive the technical assistance and public services which they are not qualified to render through their own resources.

A common experience of the present school construction programme is to find that within a month or two of opening a new school the number of students has increased to twice the number that can be accommodated. Costs can be reduced by designing a basic unit capable of expansion through local or communal efforts, and by relating the layout and basic construction to the functions of the school as a community centre.[1] Every community school ought to have an adequate supply of potable drinking water. Their efforts in health education are obviously frustrated where polluted rivers and irrigation canals are their only source of drinking water.

The curriculum of the present community schools is too academic. It is puzzling to see children in one part of such a school going through the same bookish exercises and memorizations that are practised in the towns, while in another room adult women engage in the preparation of a school lunch to put into practice what they have just been taught about nutrition and food problems. The subject matter to be taught to the children in these schools should be related to their chief concerns: food, livelihood, health, their home, community, and country; when they learn to read, write, and figure, they should do so with the purpose of using their knowledge for improving their way of living. This problem of what to teach and how to teach it in the rural and community schools should be one of the chief subjects in next year's training courses.

Buildings and grounds and a curriculum do not make a school. The teachers are the most important element. The type of teacher or director

[1] *Note:* The Mexican Ministry of Education has established a special department of school architecture. In view of the great diversity of climatic and economic conditions in Mexican rural areas, the working plans of that department might be suggestive for future planning in Haiti.

now working in the three community schools is still an exception in rural Haiti. It would seem advisable to use some of the experienced and successful members of the Social Missions as instructors in future training courses. The training should not be given in Port-au-Prince, but in the actual setting of a community school, such as Descloches, which is near enough to the capital to make use of the hospitals and the National Agricultural School for observation and laboratory practice. The UNESCO centre in Marbial was used last year for a two-weeks' special seminar to teach the social missioners the techniques of community study. For most of them it was the first experience in field study. The manner in which these teachers are carrying over what they learned to the solution of the community school problems shows the value of training in real situations. With the completion of the community centre and the technical organization of the UNESCO pilot project in Marbial, a valuable training centre for rural teachers could be developed there. The combination of agricultural, medical, and educational activities of the proposed Marbial project offers opportunities for learning which could not be found in specialized courses given in the capital.

The agricultural school of Châtard near Plaisance in the northern part of Haiti was originally designed to train young men as practical farmers. At the present time there are about twenty-two young men in training there. Most of the building and staff facilities, however, are absorbed by an elementary school for over 300 children of the neighbourhood. There is not enough farm land for crop production and demonstration work. The school has no safe water supply. There are no farm animals. In short, the Châtard School is unable to furnish the practical training for young farmers who could become leaders in their own communities. If the programme of regional vocational schools envisaged in the recommendations concerning agricultural development[1] is adopted, then a new school will have to be organized in the Châtard region.

While the director of the Châtard School has some space in the buildings of the school for his private living quarters, none of the community schools in existence or planned has provisions for the director's house or teachers' quarters. One of the essential conditions of a good rural teacher is that he be a member of the community where he works, and that he enjoy living conditions commensurate with his position and responsibilities. It is doubtful whether a larger number of good directors of community schools could be secured without making satisfactory provisions for them and their families to live near their schools. Their work is of such vital importance to the development and welfare of the country that their

[1] See part II, chapter I, Agricultural Development and Rural Welfare, page 117.

salaries should be fixed in proportion to their responsibilities and the climatic and other difficulties of the region where they work.

With the approval of the Artibonite development project, the necessity of establishing community centres there will be immediate. The directors and supervisors of the community schools project, together with the director of rural education, should make a critical survey of the problems of the three existing community schools and of the Marbial UNESCO centre with a view to preparing a practical plan for the new centres in the Artibonite.

There is every indication that a closer co-ordination of the departments of rural, adult, and vocational education with the agricultural training facilities available at Damien and the public health service at Port-au-Prince would produce better results in the near future than these departments are now trying to achieve separately.

An analysis of the construction costs of the Orientation School of Haut St. Marc reveals that a good standard community school in rural Haiti would cost about $4,000 (gourdes 20,000) to build, provided local resources and labour are used. This estimate allows for a somewhat larger and better built school than that at Haut St. Marc: it would have a well with sufficient potable drinking water, a simple dispensary, a workshop for the making and repair of tools and simple furniture, and a residence for the director of the school, with two extra rooms for teachers. Funds for the early construction of ten such schools should be provided. It is important that no building projects should be approved unless provision is made for securing a properly trained staff for each school. The teachers must have special training and practice in established centres, such as could be provided at the Marbial Centre.

The Mission recommends that:

(*a*) The type of community school and centre which the Rural Education Department and the UNESCO pilot project at Marbial have initiated be extended as rapidly as possible;

(*b*) The leaders for the adult education activities in these centres be chosen from the local population on the basis of their capacity for leadership and training.

7. Teacher Training

Any proposal for the improvement of education in Haiti depends upon a large increase in the number of teachers. The maximum number of teachers who expect to graduate in 1949 from the normal school course at Damien and the women's training school at Matissant is forty. A few more may come from religious schools which offer teacher training facilities

for a limited number of students. It is doubtful whether more than thirty candidates will apply for teaching positions. The special report referred to earlier in this chapter[1] gives as the chief reasons for the lack of interest in a teaching career the inadequate remuneration and facilities, the hardships of living in isolated rural areas, and the lack of security of tenure due to political influence in appointments and promotions.

Until recently the men teachers for primary schools, and rural schools in particular, were prepared at the National Agricultural School at Damien. Following a regular agricultural course, and during the last two years special courses in methods of teaching and psychology, most of the rural teachers and principals had at least a sympathetic understanding of the environment in which they were going to work. With the separation of the training programme from that of agricultural specialists, however, the curriculum now consists primarily of lectures. Not one of the educators or agronomists who were familiar with the teacher training programme carried on in the National Agricultural School before 1946 appeared to be in favour of the present separation of the two programmes. It would seem advisable to reconsider the situation, with a view to returning to the former arrangement or finding some other appropriate way to bring the rural education programme into close relation with the practical work of the Agricultural School.

The Girls' Training School at Matissant is well-housed and provided with buildings for the practice school and adequate grounds for gardening and the care of farm animals, but it is no longer making use of these facilities. The fields are neglected; the laboratory for home economics and health education has become just another classroom. Home economics and health education should be given a prominent part in the school programme. Emphasis should be placed upon nutrition, gardening, child care, home improvement, and social work among the poor.

The two normal schools should give short, intensive training courses during the summer vacations such as those that were initiated last summer. Competent special teachers who have studied abroad are available. The courses should have a double purpose: to give teachers in service a chance for promotion as principals or instructors for in-service training courses, and to prepare rapidly candidates for the emergency teacher certificates.

8. Conclusions

The magnitude of the educational task to be accomplished with the limited resources of Haiti is great. The country needs more schools and more teachers, and the teachers need adequate pay and security of tenure,

[1] Page 43, footnote [1].

independent of the vagaries of political change, which must not be permitted to break the continuity of the educational system or to block its improvement. The curricula of all the schools—primary, secondary, pre-vocational, vocational, and special—need revision to bring them in closer relation with the life and economic realities of Haiti. Without books and other printed materials no modern nation's schools and teachers can produce any worthwhile learning. Progress in civic consciousness, public health, and economic endeavour depend upon the efficient service of public education.

The Government's task is to make the masses of the population more effective participating and producing members of society. This is a world-wide trend. For its advancement Haiti—no less than any other country in a comparable situation—needs the continuous stimulation of cultural impulses from the outside. It cannot afford not to utilize to the fullest extent any competent educators from among its nationals who have been trained abroad with Haitian or foreign scholarships. Whatever is good in other lands should be examined objectively for its value to the improvement of the organization of Haitian education and its efficient operation in urban and rural areas alike.

There is no evidence of a critical review or survey in the last twenty-five years of the purposes, programmes and results of public education in Haiti. While there are certain advantages in a centralized school system, one of the most serious disadvantages is the tendency in the central offices to lose contact with the realities of the local problems in the rural areas, and to turn the supervisory personnel into controllers, rather than advisers and guides of local teachers and school boards. The report of Messrs. Pierre, Ambroise, and Devieux[1] indicates that there is a felt need among Haitian teachers for a reconsideration of the work and achievements of the national system of education. We understand that plans have been drawn up for a comprehensive survey of the educational system to be undertaken within the next two or three years, with the assistance of outside experts. The Mission strongly supports early realization of this survey.

[1] Page 43, footnote [1].

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CHAPTER III

Public Health Problems

1. Basic Factors

The Haitian public health problem is in the main a rural problem, as peasants and their dependants living mostly on tiny farmsteads widely scattered over the whole countryside form the overwhelming majority of the people. With the exception of Port-au-Prince, the adjoining town of Pétionville, and the few departmental capitals harbouring in all but one-tenth of the population, most of the agglomerations designated as cities or towns are in fact hamlets lacking in lighting installations, sewerage, paved streets, and other amenities of municipal life characterizing city formations in economically more developed countries.

Lacking as a rule the very essentials of wholesome housing, the peasant huts, described in a previous section,[1] are difficult to keep reasonably sanitary. Rarely has a peasant family more than one bed, if any, and several people share it simultaneously; the less fortunate sleep on mats on the bare ground. The water available for use in the household seldom fulfils the demands of hygiene; as properly capped wells are scarce, the rural population commonly relies on more or less polluted surface water for drinking and cooking, washing and bathing. Latrines and other toilet facilities are mostly lacking. In the circumstances, obviously, a heavy task confronts the Haitian health authorities, whose work in the rugged countryside is further complicated by the very poor state of communications, causing whole areas to be practically isolated during the major part of the rainy season.

There are virtually no statistics of diseases. The cause of death is established only in deaths occurring in the hospitals. Of the 16,450 deaths registered in 1944, only 2,298 were accompanied by a statement of the cause of death (excluding ninety-six deaths classified in the uncertain category of "sudden death" and of other causes not more fully determined). The small number of well-defined causes of death does not admit of any conclusive inferences. Nevertheless, the distribution of these causes furnishes at least some information. About 40 per cent of them were attributed to one or another of the "infectious and parasitic diseases", with an overwhelming preponderance of tuberculosis (46 per cent of this group). According to these statistics other diseases of this category such as malaria,

[1] Part I, chapter I, section 3, page 38.

typhoid fever, tetanus, etc., are of minor importance. In fact, most of the malaria patients in Haiti receive no treatment or are at best treated in dispensaries only. Consequently these statistics offer no conclusive evidence on malaria mortality.

However, the well-known fact that tuberculosis takes its heaviest toll of human lives in the period of young adulthood is established once more in Haiti, as is shown below.

	Number of deaths from all causes	*Number of deaths from tuberculosis*	*Per cent*
20-29 years	216	91	42
30-39 years	223	79	35
40-49 years	197	46	23

Since the number of deaths occurring in hospitals represents only a fraction of all deaths in Haiti, it seems that no precise conclusions can be drawn from these figures.

2. The Haitian Health Organization

(a) *General Structure*

The central official agency for health matters, the Public Health Department, subordinated to the Secretary of State for National Education and Public Health, dates from the time of the United States occupation of the country (1915-1934). Organized in various technical divisions, it supervises the public hospitals, one each in the eleven health districts into which the republic is subdivided, as well as the medical officers in charge of 105 public clinics and dispensaries distributed among the health districts in rough proportion to their estimated population.

Among the provincial public hospitals, one has just come into operation at Belladère, the recently inaugurated model town constructed on the site of a previous ramshackle agglomeration on the eastern border. In co-operation with the American Sanitary Mission, the maternity hospital Chancerelles at Port-au-Prince has also just been completed, and the Government is contemplating the building at Bel-Air (Port-au-Prince) of a new hospital to supplement the accommodation offered by the General Hospital, which has proved inadequate.

The last-mentioned hospital, employing thirty-two doctors, has 525 beds. The ten provincial public hospitals,[1] employing forty-four doctors, have 944 beds in all. In addition, there are 101 beds in private hospitals or clinics, chiefly in Port-au-Prince. Thus 1.570 beds altogether are available in the three categories of hospitals.

[1] These are located at Cap-Haitien and Port-de-Paix in the north, at Gonaïves, St. Marc, Hinche, and Belladère in central Haiti, and at Jacmel, Petit-Goâve, Les Cayes, and Jérémie in the southern peninsula.

Health Centre—Port-au-Prince.

As far as could be ascertained, the hospitals are in general properly maintained and sufficiently equipped in relation to local needs. All of them are provided with operating facilities and a maternity ward. Isolation facilities, however, are lacking in the smaller establishments; even at the General Hospital in Port-au-Prince the isolation ward is quite inadequate.

The relatively high number of physicians at the General Hospital in Port-au-Prince—high, that is, in relation to the number of beds, this ratio being 1:16—is explained by the fact that specialists in surgery and treatment otherwise of all kinds of ailments must be available there and that these doctors are at the same time professors at the Medical School of the University. The General Hospital is, in fact, the only centre for practical teaching and training of medical students, nurses and midwives. The number of doctors employed in the smaller hospitals seems, on an average, rather high in relation to requirements that are obviously much less diverse in the case of almost all of them. In the ten provincial hospitals taken together the ratio of physicians employed to beds available is 1:21. If some part of the medical staff now employed at hospitals in the towns could be spared and trained for public health work in the field, especially in rural areas which are as a rule sadly lacking in medical attendance, this would no doubt be of benefit to the country and—indirectly, at any rate—to its economic development.

Some fifteen doctors are graduated every year from the Medical School in Port-au-Prince. Of the 292 physicians in service at the end of 1948, seventeen were abroad for study,[1] 150 resided in the capital and the nearby

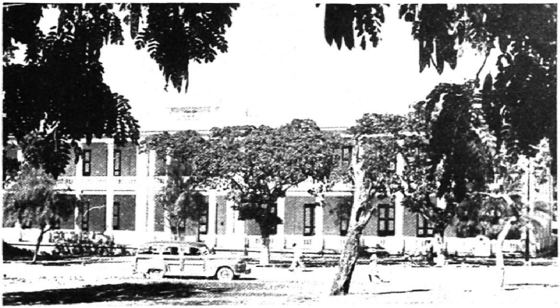
[1] Twenty-four Haitian physicians were exercising their profession abroad.

residential town of Pétionville (thirty-two of them serving at the General Hospital), and ninety-nine were exercising their profession in the principal provincial towns (forty-four of them being attached to the provincial hospitals), thus leaving only twenty-six physicians to care for the ordinary medical needs of well over 2,500,000 people living in the smaller towns and the rural areas.

A nursing school annexed to the School of Medicine, while actually located in the General Hospital, provides nurses and midwives for employment in the hospitals, which seem well staffed in this respect, or for other health service, chiefly, if not exclusively, in the towns. The professionally trained nurses and midwives in service at the end of 1948 numbered 317 and seventy, respectively, of which number 146 nurses and twenty midwives were employed in hospitals.

Since 1942 the Public Health Department, in co-operation with the Rockefeller Foundation and the American Sanitary Mission, has executed some major public health projects—an anti-yaws campaign, drainage works for malaria control, and medical education measures. Before discussing these activities in some detail it may be of service to attempt an appraisal of the organization of the Public Health Department and its capability of carrying out public health measures by its own means (i.e., without such assistance as that just referred to), and this for the following reasons:

1. Where a project has been undertaken with the assistance of a foreign agency and this assistance is discontinued, maintenance of the work is the Department's responsibility;



The University of Haiti, College of Medicine and Pharmacy, Port-au-Prince, graduates approximately fifteen medical doctors annually.

2. Knowledge of the Department's capacities and achievements in public health work, past and present, is essential for future planning;

3. It should prove of service to the Department to have its attention drawn to such shortcomings as may be detected in its organization and activities.

Needless to say, this appraisal is attempted on the basis of strict objectivity with no intent of commending or of casting blame upon anyone.

(b) *Central Health Administration*

A director-general is at the head of the Department of Public Health; he is assisted by a deputy director-general and by the chiefs of the technical and administrative divisions, which are six in number and are concerned with epidemiology and prevention of epidemics, malaria control, vital statistics, quarantine, hospitals, and rural clinics and dispensaries. All of these medical officers, with one or two exceptions, are trained in hospital service only, and for this reason tend to take greater interest in hospitals than in health problems of the country districts.

(c) *Provincial Health Administration*

In each district is an administrator (*administrateur*) charged with the medical supervision of the district, under the direct orders of the director-general. Except in Port-au-Prince the administrator is also doctor-in-chief of the hospital. Most of these administrators are surgeons who are necessarily tied to the hospitals and, as a rule, have had no public health training in the field.[1] Moreover, rural public health work is greatly handicapped by lack of means of transport available to the health officers. Most of the smaller districts have but one or two dilapidated vehicles for all medical purposes, and even for these gasoline supplies are frequently insufficient. There is a further reason why the health administrators and other physicians are disinclined to absent themselves from their home station: they are all of them private practitioners, who could not possibly make a decent living on their salaries ranging from $60 to $160 a month.[2] As no efficient public health work can be performed in the countryside of Haiti without travelling, the activities of the supervisors tend on the whole to be confined to the provision of medical supplies to the clinics in their districts, and to some administrative matters of minor importance.[3]

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[1] A few of the provincial health districts have recently been placed under the direction of trained public health officers charged simultaneously with the supervision of the local hospital.

[2] In general the level of salaries of Haitian civil servants is very low.

[3] According to information received in June 1949, there are actually ten doctors among those serving as division chiefs in the Central Health Administration or as administrators of provincial districts who have received public health training at recognized American universities.

(d) *Rural Clinics and Dispensaries*

In order to improve conditions at the rural clinics and dispensaries and to bring back into operation a number of such establishments closed down on account of economic or other difficulties, the Public Health Department in the course of 1948 had some sixty young men and women trained in dressing, simple medication, and administering of intra-muscular injections. On final examination after nine months' training, these trainees were given the title of medical auxiliaries and were entrusted with operating a rural clinic or dispensary more or less on their own—a none too easy task and responsibility to shoulder after such a limited training course. Yet, if their operation of the establishments entrusted to their charge were subjected to strict medical supervision, some positive results could be expected. As pointed out above, however, the medical supervision of rural clinics and dispensaries is manifestly deficient. The system of medical auxiliaries cannot, therefore, be commended in its present form.[1]

If the rural clinics were attended by a doctor every market day they could be effectively utilized in combating yaws, and could prove useful also as observation posts for detection of incipient epidemics. Furthermore, they could be put to good use for examination and care of the health of school children. Without regular supervision, however, they are of little value.

Recently an inspector-general, with his staff, was appointed head of the division of rural clinics and dispensaries. The efficacy of this appointment must be questioned. Wanting in the first place are physicians for the treatment of the patients in these clinics and for their medical supervision. Superimposing a top-heavy and expensive central staff upon a system which rather needs strengthening in what concerns its local ramifications, and amplification of the means of transport for servicing them, does not seem to have been a well-considered measure.

(e) *Rural Doctors*

There are some ten doctors of the Public Health Department residing in the rural districts with a number of clinics under their care. In a certain village one of these doctors was interviewed. He stated that he had been unable to visit most of the dispensaries in that area because of lack of transport and allocation of travel expenses. Nevertheless, he did sometimes travel, but was obliged to make good his travel expenses by private practice. The poor will get very little help, indeed, from rural doctors in his position.

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[1] According to observations received in June 1949, the corps of medical auxiliaries is not envisaged as a definite organism, but rather as a provisional step towards the solution of rural public health problems pending the creation of rural health centres directed exclusively by qualified doctors.

It must be feared that travel practices are the same everywhere, for a civil service which does not provide means of transport or compensation for travelling expenses cannot reasonably order its officials to travel on duty. Yet it must have been the intention of the department that the hospital physicians should attend the clinics and dispensaries; in fact, in the annual report for 1944 it is stated that they must visit these institutions by turns. It cannot be readily ascertained whether this instruction has ever been generally and effectively lived up to; that this is not the case at present seems evident.

Summing up the observations on the health organization, it must be stated that with respect to its responsibilities in the rural areas the Public Health Department has not proved equal to its task. Neither the administrators nor the other physicians, with but few exceptions, have received adequate training in public health work. Their exercise of private practice and the lack of means of transport available to them are the main factors deterring them from more active pursuit of public health activities.

3. Prevalent Diseases

Yaws, malaria and, in a certain degree, hookworm and tuberculosis are prevalent diseases in Haiti. As to the prevalence of syphilis, a statement in a recent issue of the Public Health Department's annual report contends that some 57,000 cases were treated at hospitals and dispensaries during the year 1944. There are reasons to doubt, however, that all of the physicians on whose reports this total is based sufficiently master the sometimes difficult differential diagnosis of yaws and syphilis. The figure therefore is subject to reservation and may well be too high.

Little or no reliable information is available on epidemics. Typhoid fever seems to be slightly endemic in some areas, sometimes giving rise to more or less severe epidemics. Amoebic dysentery is well known, bacillary dysentery, however, is seldom diagnosed. It seems quite possible that a more careful bacteriological examination of cases of diarrhoea would establish a higher incidence of this disease.

(a) *Yaws*

Yaws and malaria are the two major health problems in Haiti. An account of the activities of the American Sanitary Mission given in a recent issue of the Haitian periodical *Panorama* contains the statement that as many as 85 per cent or more of the population in certain rural areas of Haiti have been found to suffer from yaws.[1] Endemic in all parts of the country, yaws is encountered chiefly in the rural districts.

For the last five years the American Sanitary Mission in co-operation

[1] *Panorama*, Port-au-Prince, Haiti, March-April-May 1948, page 294.

with the Haitian Government has been carrying out an anti-yaws campaign. At the present time the following clinics are in operation:

Full time	*Once a week*	*Once a fortnight*
Moron	Cressier	Kenscoff
Cavaillou	Mirebalais	Cabaret
Pérédo (Marigot)	Vilaret	
Port-de-Paix		
Pilate		
Dondon		

Though this anti-yaws work has undoubtedly a considerable effect, it must be kept in mind that patients unable to make the long trip to the clinics will not receive the treatment they need.

A more serious defect is the failure to carry on maintenance work in the areas where mass treatment has been discontinued. An anti-yaws campaign properly conducted reduces the incidence of the disease in a very high degree, but it is not capable of eradicating yaws. Relapses and new infections will occur continually, and only treatment in due time will maintain the low incidence. In Haiti this maintenance work would be the task of the Public Health Department and could be accomplished in the dispensaries. For the reasons discussed above, however, the system of rural clinics and dispensaries as organized at the present time is not equal to the task. It is true that the medical auxiliaries in the dispensaries treat yaws with intra-muscular injections of bismuth preparations, but this therapy cannot substitute for the intravenous injections of arsenicals, which must be administered by a physician or an especially trained aide.

Treatment with penicillin has been tried with encouraging results. Thus, in the words of a concluding observation on the experience gained from such treatment in Haiti some years ago of 500 patients with primary and secondary yaws infections.[1]

" . . . it is felt that penicillin is probably the present-day drug of choice in the treatment of yaws, and that penicillin in oil with beeswax is of considerable public health value in countries such as Haiti where large numbers of patients must be treated on an ambulatory basis in rural clinics. Its use can be expected to successfully control cutaneous lesions and therefore prevent the spread of infection".

A more comprehensive experiment undertaken in Haiti between March 1947 and August 1948 (the results of which are shortly to be published) has been summed up as follows by the physicians directing it:[2]

"Approximately 1,200 Haitian peasants with early yaws were treated with penicillin in peanut oil and beeswax (Romansky formula). Injections were administered in a two- or four-day schedule for a total of 1.2 and

[1] James H. Dwinelle and co-operators, "Evaluation of Penicillin in the Treatment of Yaws", *American Journal of Tropical Medicine*, vol. 27, no. 5, September 1947.

[2] Charles R. Rein, Delmar K. Kitchen and Edouard A. Petrus.

2.4 million O.U. Blood specimens were collected from each patient prior to treatment. Approximately 65 per cent of the patients treated were followed clinically and serologically at three-month intervals for at least one year. All patients were seropositive before treatment. At the end of one year approximately 30 per cent were serologically negative (Kahn standard test) and an additional 63 per cent showed a definite reduction in serologic titer. Only 7 per cent were classified as serologic failures and some of those might have been re-infections. The clinical results with penicillin therapy were unusually good."

The anti-yaws campaign will be given further consideration below.

(b) *Malaria*

Malaria is prevalent in many sections of the country. According to the survey of J. Harland Paul and Athémas Bellerive,[1] but a few areas in Haiti are malaria free. These authors state that spleen and parasite rates presented for many areas of Haiti are as high as or higher than those reported from anywhere else in the Western Hemisphere.

From *Panorama*, March-April-May, 1948, page 302, the following entomological data are quoted:

"Four species of anophelines have been found in Haiti: *A. albimanus, A. grabhamii, A. vestitipennis,* and *A. crucians. A. albimanus* is the predominant species—and apparently the principal vector, although *A. grabhamii* is believed to play a secondary role as a vector of malaria. *A. vestitipennis* is seldom encountered and is not thought to have any importance as a vector. Larvae of this species have been collected only on two occasions from ponds adjacent to the coast. *A. crucians* was found for the first time in Haiti when five adults were taken in two trap collections at Léogâne, in January 1945".

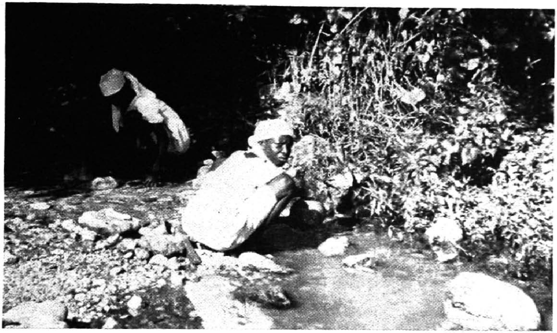
MALARIA CONTROL DRAINAGE PROJECTS

In most of the coastal towns, which are all more or less malarial, engineering projects have been executed.

Petit-Goâve

From 1942 to 1944 an extensive drainage project was executed here under the auspices of the Rockefeller Foundation. The parasite rate dropped from 86 per cent in 1940 to 20 per cent in 1944 after the completion of the project. This is a striking result of the execution of an excellent malaria control programme, and it is, therefore, the more regrettable that the maintenance of this drainage system has been badly neglected. On a visit to the spot by the Mission's expert on public health it was found that some of the main drainage channels were filled with sand, a dike was broken, and in consequence the once perfectly drained area had been inundated and become marshy. If necessary measures are not taken in

[1] J. Harland Paul and Athémas Bellerive, "A Malaria Reconnaissance of the Republic of Haiti", *The Journal of the National Malaria Society*, vol. 6, no. 1, March 1947.



Pure water supplies do not exist in the villages and rural areas. Water for domestic use comes from polluted rivers and springs similar to the one shown here. Peasant women may walk several miles carrying water in calabashes for their household use.

due time, the purpose of this malaria control drainage project will be frustrated. The sanitary inspector in charge of the maintenance of the project has but four day-labourers at his disposal, a number just sufficient for the regular digging out of the obstructed outlets of the drains, but absolutely inadequate for emergency repairs.

Needless to say, this neglect of maintenance of expensive malaria drainage projects seriously affecting the malaria control in the area concerned, must be considered a grave shortcoming of the administration responsible. If the upkeep of existing public health installations is not effectively attended to, the undertaking of further projects of this nature would be of doubtful value.

Aquin

In this small coastal town a malaria control programme was executed under the supervision of the Rockefeller Foundation from 1945 to 1946, in consequence of which the spleen and blood rate dropped from 34.2 and 50.5 per cent, respectively, in 1945, to 20 and 8 per cent in 1948, also a very satisfactory result. This project has been better maintained, though some minor emergency repairs have not been executed because of permanent lack of day-labourers.

Further malaria control drainage projects have been executed by the American Sanitary Mission, in co-operation with the Haitian Government

in the towns of Jacmel, Les Cayes, Léogâne, Gonaïves, St. Marc, and Cap-Haitien.

Apart from the data collected in the above-mentioned survey by Paul and Bellerive, which related only to schools, nothing is known about the malaria incidence in the rural areas. Failing adequate knowledge on this point, no precise suggestions of anti-malaria measures can usefully be made. Institution of a thorough malaria survey of the rural areas with a view to obtaining the information or indications needed for drawing up a purposeful larviciding programme is highly desirable, considering that DDT has proved a very effective larvicide that can be used in places where engineering projects for malaria control through drainage are not feasible.

An alternative measure worthy of encouragement would be the cultivation in such breeding places for anopheline mosquitoes as ponds, pools, lagoons, rivers and irrigation ditches, of top-feeding minnows, particularly gambusia,[1] as a larvicidal agent.

(c) *Tuberculosis*

According to the statistics for the year 1944, tuberculosis was the most important cause of death among hospitalized patients. Although these statistics cover only a small number of all deaths in Haiti, it may safely be assumed that there is a great deal of tuberculosis in the slum quarters of the larger towns.

Some evidence that the disease is most prevalent in large communities is given by the ratio of deaths from tuberculosis to all recorded deaths as shown below.

Hospital	*Number of deaths 1944*	*Deaths from tuberculosis*	*Percentage*
Port-au-Prince	1,405	306	21.7
Cap-Haitien	319	64	20
Les Cayes	189	38	20
Gonaïves	138	5	3.7
Hinche	50	1	2
Jacmel	69	—	—
Jérémie	75	8	10.6
Petit-Goâve	29	2	7
Port-de-Paix	63	4	6
St. Marc	62	6	9

[1] Remarkable results have been achieved in Europe and the Far East through the cultivation of this predatory fish, a potent enemy of all kinds of mosquito larvae which it devours. According to L. W. Hackett, *Malaria in Europe*, ed. 2, London, Oxford University Press, 1944, page 312, the gambusia adapts itself easily to every climate and every kind of water, fresh or salt, and is extraordinarily resistant to all sorts of untoward circumstances. It is rarely sufficient by itself, however, to accomplish the whole task of malaria control. Its contribution to health improvement will be most conspicuous in localities where the anopheline density is close to the critical level at which the percentage of new infections in the population is equalled by the percentage of recoveries, and below which malaria can no longer maintain itself as an endemic disease.

These figures show the highest proportion (about 20 per cent) of deaths attributed to tuberculosis in the hospitals of the three largest towns. According to Leyburn,[1] in 700 autopsies performed in one year at the General Hospital of Port-au-Prince, 26 per cent of the deaths were due to tuberculosis.

It is common knowledge that one important factor in the spread of the disease is that people live crowded together in great number in small rooms. Housing in Haiti is generally poor, but nowhere is it so bad as in the slum quarters of the big towns, and above all those of Port-au-Prince, the capital. There in limited spaces abundant crowds live in the most intimate contact in the poorest dwellings imaginable, erected on ground that in the rainy season becomes a quagmire, and surrounded by carelessly discarded garbage. New accretions to these miserable crowds are continually drifting in from the countryside. Years ago an attempt was made by the Government to improve the situation in Port-au-Prince by constructing close to the waterfront a number of very simple but more sanitary houses of concrete, with more space between them; subsequently the open spaces were again occupied by slum dwellings of the old style.

[1] Leyburn, James G. *The Haitian People*, page 275.

Hydrant provides water near the farmers' market in Port-au-Prince. Improved facilities to furnish unpolluted water are needed throughout Haiti.

A renewed attack upon the slums has been undertaken in conjunction with the works for the international exposition at Port-au-Prince planned to be inaugurated at the end of 1949. The projected site along the waterfront embraces a large part of the slum quarters referred to above. These are to be cleared to give place to constructions for the exposition, the building of which has actually begun. The people are to be moved to higher land away from the shore. Thus there are now prospects for ameliorating the situation of the inhabitants of the quarters in question.

To check the increasing spread of the disease an anti-tuberculosis association was founded some years ago, funds were collected, and a sanatorium was constructed in Port-au-Prince and partially equipped, but for lack of working capital it was turned over to the Government for operation. Fully equipped this sanatorium will have a capacity of 100 beds (at present facilities are available for sixty patients). Rather than a sanatorium, it is a tuberculosis hospital where a very active surgical therapy is practised. In addition, there are in operation in the capital three health centres where some anti-tuberculosis work is also performed. But it must be kept in mind that all these attempts fall short of providing the solution of the problem, which must be sought in improvement of the standard of living and of the general sanitary situation. Hence, for many years to come tuberculosis will, it is feared, continue to take a heavy toll of human lives in Haiti.

Although living conditions and housing in the rural districts are not so bad as in the slum quarters of the towns, it may be assumed that the rural population is also suffering from tuberculosis. No figures at all, however, are available with regard to the incidence of the disease in the countryside.

Since children in many countries and especially in various parts of Europe are now being vaccinated on a large scale with BCG against tuberculosis, a trial with this vaccine is to be recommended with regard to the children of Haiti endangered by tuberculous infection. Furthermore, it is desirable that research and investigations be made using the skin test method for determining the rate of tuberculous infection in certain areas, such as the slum quarters of the larger towns as well as—for purposes of comparison—selected rural districts.

(d) *Ancylostomiasis*

Hookworm disease is well known in Haiti. In a survey conducted in 1925 under the auspices of the Rockefeller Foundation 47 per cent of 6,652 persons examined were found infested. In our recent survey of school children in Marbial, to be mentioned below, some clinically typical cases of severe hookworm disease were found.

In the mortality statistics of the Haitian hospitals for the year 1944 but three deaths were attributed to ancylostomiasis as against seventy-eight deaths due to infestation with other (not specified) intestinal worms. This strange distribution of intestinal worms will not be discussed further here: suffice it to say that hookworm disease is common in this country. It is desirable that the rate of infection be established by future surveys.

In conclusion of the rapid review made above of the principal diseases, it may be stated that in Haiti yaws and malaria are prevalent, that the incidence of tuberculosis is high, particularly in the large towns, and that infestation with hookworm is common. The only epidemics reported to have taken place in recent years were caused by typhoid fever; precise data are lacking, however, and the observation of health developments in the rural areas is so inadequate that epidemics may occur unknown to the health authorities.

4. Public Health and Fundamental Education at Marbial

Concrete illustration in local miniature of some of the nation-wide phenomena considered above and their relationship with educational and other aspects of the Haitian problem of economic development is afforded by the findings made in the Mission's field survey of conditions in the Gosseline River Valley, the operational area for the fundamental education project initiated by UNESCO at Marbial, some ten miles northeast of the coastal town of Jacmel. The present section is a summary of the relevant field report of the public health expert of the Mission.

When UNESCO stated this pilot project in the spring of 1948 the food situation in the valley was very bad on account of two consecutive crop failures. Even under more normal climatic conditions, however, the yield of the cultivable land, which constitutes only a small proportion of the total area of this steep-walled valley, is low and permits but a poor living for the too numerous population still caught in farming traditions which pay little regard to the necessary husbanding of the natural resources.

A survey made in the fall of 1948 by the writer in co-operation with a senior officer of the Haitian Public Health Department revealed spleen and blood rates of 7.0 per cent and 12.7 per cent respectively in 216 school children examined. While this indicates a very slight malarial infection,[1] it should be kept in mind that only the more prosperous peasants can afford to send their children to school, and that for this reason malaria infection among children of this age in general might be somewhat higher.

[1] *Anopheles albimanus* breeding areas in the Marbial section of the Gosseline River Valley are only to be found in marginal pools left over in the broad riverbed after flooding of the river, and hence are never so extensive as, for instance, in lagoons and marshy regions on the coastal plains. This peculiarity of the breeding areas accounts for the relatively low incidence of malaria in this region. By the end of 1948 all breeding places had been treated with DDT.

Some of the children were found to show the typical symptoms of hookworm disease, and thirty-three out of 126 children had pronounced anaemia, in seventy-seven children malnutrition was evident, in spite of three meals a week provided by the UNESCO station since 1 September 1948. This combination of malnutrition and the two diseases mentioned, though each of relatively low incidence, might in the long run exert a devastating effect on the health of the community. Mortality among infants and children would seem to be high.[1]

While the heavily polluted river has until recently been practically the only source of water supply for all purposes, the situation was greatly improved in the fall of 1948 by the drilling at the UNESCO station of a well yielding some 800 gallons per hour. Although this water may not be quite unobjectionable from a bacteriological standpoint owing to the close proximity of the well to the living quarters, simple measures of protection can be taken, rendering the well a great asset to the community.

A school has been established in connexion with the project, and a limited school-feeding programme has been put in operation; young girls are receiving training in weaving; a workshop for the production of cement bricks, and a plant nursery have been set up; a market and a slaughter-house have been constructed; road building and soil preservation work have been organized on a co-operative basis; and a community centre for both adults and children is under construction.

It stands to reason that the matter of public health should receive full attention in the creation of a rural community centre to point the way for the future development of Haitian rural life. As a first step towards public health promotion the broad mass of the peasant population, as yet mostly illiterate, should be taught the elements of sanitation necessary to guard against disease, and should be encouraged to co-operate to that end among themselves and with the health authorities. This public health instruction should be intimately combined with, indeed made an integral part of the fundamental education provided under the UNESCO pilot project.

Yaws, which seriously affects the work capacity of the peasant population, should be systematically combated, as part of the nation-wide anti-

[1] An attempt was made to make up in some way for the lack of reliable birth and death figures by interrogating a number of old women about their offspring. Forty-two of these women had given birth to 122 boys and 126 girls; of these 247 children 97 (39 per cent) had died (55 boys and 42 girls), and then alive were 150 children (67 boys and 83 girls). The number of childbirths per woman was thus 5.8, and the number of children still alive 3.5. The basis is of course too narrow for conclusive inferences; nevertheless, there is a striking agreement with figures established on a much larger scale for certain underdeveloped areas in Indonesia showing the same exceedingly high birth rate and a steady increase of population, in spite of a very high mortality in infants and children.

yaws campaign, in order to achieve that amelioration of labour efficiency on which the needed improvement of the agricultural situation of the community must depend in the last resort. While malaria control by engineering methods is not required in this region, anopheline mosquito breeding places should be treated regularly with larvicides.

To ensure sustained activity towards public health promotion in this region, there should be provided at Marbial a health centre to include not only a dispensary and a section for health education, but also a laboratory and a research section for investigations and tests to determine the prevalence of endemic diseases and detect epidemics.

The personnel should comprise: one physician, one secretary-stenographer, one male nurse for the dispensary, two public health nurses, two aides for the anti-yaws campaign, one technician for malaria control, one technician for public health education, two chauffeurs, one groom.

It must be emphasized that the physician (who may have his home station at Jacmel) ought to be a field worker, well trained in the activities specified above, and in good physical condition. His would be a full-time job, hence not allowing the exercise of private practice. With the increase in the number of the community centres one physician could be charged with the care of several public health centres, the possibility that a number of communities might be able in the future to establish a modest rural hospital to be kept in mind.

The health centre at Marbial could be amplified to serve, in addition, as a centre for training physicians and other medical personnel in methods and practices of public health and research work that may be profitably applied in operating rural health centres in other parts of Haiti. Such extension of the scope of the Marbial centre would call for the inclusion of one more physician in its permanent staff.

For the purposeful development of the organization of rural public health Haiti needs medical men with enthusiasm and initiative, young doctors whose minds are open to the needs of the peasant, and who are willing to co-operate with the agencies concerned. It would not be advisable to start at once a large number of rural health centres, but rather to proceed slowly, learning by experience; success will depend entirely on the men who do the job.

5. Conclusions and Recommendations

The above review of Haitian health problems has been confined to their "public health" aspect—as was indeed the Mission's investigation of this matter. The important related problem of nutrition has not been dealt with here, and on housing but cursory observations have been made

above.[1] Some brief reference to both these problems is, however, made elsewhere in this report.[2]

In examining the over-all situation it was found that the fundamental difficulty in the field of health, and the one having the most immediate bearing on and raising the gravest obstacle to the economic development of Haiti, is the highly unsatisfactory state (not to say the virtual absence) of public health service in the rural areas, whose more than 2,500,000 people are sadly lacking in medical care.

The urban population is much better, on the whole fairly adequately, provided for in this respect, with the notable exception of the slum quarters in some of the principal cities. Hospitals exist in the larger towns, are in general properly maintained and equipped, and would appear to be even more than adequately staffed on certain points.

By contrast, the system of rural clinics and dispensaries, inadequately equipped and lacking in medical attendance and supervision, needs vigorous strengthening and vitalization. Indeed, the institution of a well-conceived, comprehensive and dynamic rural public health programme is an urgent necessity.

This programme should provide for amplification of the present inadequate organization by establishing rural health centres to include, in addition to a clinic or dispensary, a small laboratory, a research section for investigating the prevalence and incidence of diseases, detecting epidemics, etc., and a section for public health education to work hand in hand with the local organs for fundamental education and agricultural development promotion. As expounded elsewhere in this report, the Mission conceives of the specific centres as integrated though autonomous components of broader-purpose community centres. In connexion with the possible creation of such comprehensive rural community centres (where feasible by transformation and development of already existing local institutions), the early establishment or completion of model health centres at Marbial, Fond Parisien, and at a suitable point in the lower Artibonite should be considered.

It is advisable not to establish at once any large number of health centres, but rather to proceed by steps. At present but few medical men in Haiti are well versed in the matter of public health organization and fewer still are adequately trained in rural public health service. One of the first established health centres, e.g., that at Marbial, should be made use of as a training centre where physicians could go to learn the profession

[1] The Mission included no specialists on these problems, nor could the public health expert attempt, in the time available, to examine them in any detail.

[2] See part I, chapter I, 3 and part II, chapter I, A.3.

of public health officer. Additional training centres may be established later on to help in the formation of the medical staff needed for efficient operation of the rural public health organization as a whole.

Having in mind these general conclusions and considerations, and also the several observations and suggestions made in the preceding review of Haiti's health problems, the Mission recommends more specifically that:

1. Public health training should be obligatory for the medical supervisors (*administrateurs*) of the rural health districts; in principle, surgeons should not be appointed to these posts;

2. Medical officers in rural public health service should be full-time appointees, receiving adequate remuneration to compensate for the loss of private practice; this compensation may be given in the form of a monthly allowance, additional to the regular salary;

3. Adequate means of transport at the charge of the public health administration should be provided for the medical officers in rural public health service;

4. The planned construction of a new hospital at Bel-Air in Port-au-Prince should be reconsidered, with a view to its postponement for the time being in favour of what seems the more economical and no less effective solution of extending the premises of the General Hospital;

5. Where drainage works have been executed and installations made for malaria control, these health engineering works should be properly maintained and emergency repairs undertaken without delay;

6. A comprehensive survey should be made of the incidence of malaria in the rural areas on the basis of which an expedient programme should be drawn up for treating mosquito breeding places in malarial regions with DDT as a larvicide, where engineering projects for malaria control through drainage are not feasible;

7. Thorough surveys should be undertaken to determine tuberculosis and ancylostomiasis infection rates, more especially in rural Haiti, for which practically no data of this nature are now available;

8. A trial vaccination of children with BCG may be made, with a view to deciding whether or not to undertake large-scale vaccination of children endangered by tuberculous infection;

9. Rural clinics and dispensaries should be regularly and adequately supplied with the drugs they need for efficient operation, especially in fighting yaws, e.g., penicillin and arsenical compounds; yaws must never be treated exclusively with bismuth preparation, which may only be used to supplement treatment with arsenicals;

10. As probably well over half of the rural population of Haiti suffers from yaws, seriously impairing the capacity for work of those afflicted and hence constituting a major obstacle to the amelioration of labour efficiency on which the country's economic development so largely depends, the Department of Public Health should concentrate its efforts on a systematic fight against this plague, which the endeavours attempted so far have failed to master;

11. With a view to bringing this disease under effective control—a goal which can be attained by determined full-scale effort, though the encountering difficulties are great—an organized nation-wide anti-yaws campaign should be vigorously pursued for some three years; the costs of such a campaign are considerable, it is true, but, if incurred, would in fact represent an investment in the labour factor of production, increasing its efficiency with beneficial effects on the economic development of the country.

An operational plan and a cost estimate for the nation-wide anti-yaws campaign here recommended are immediately annexed.

APPENDIX

Plan and Estimate of Costs of a Country-Wide Anti-Yaws Campaign

The full-scale campaign should be set up in such a way that 600,000 cases per year could be treated. Within three years 1,800,000 cases, or—even allowing for a certain proportion of relapses—half or more of the whole population, could thus receive treatment. (The number of cases treated by the American Sanitary Mission during the years 1944-1946 was 205,000, 183,000, and 244,000, respectively.) Once the rate of infection has been reduced to a minimum by means of this powerful attack over a relatively short period, regular treatment in the rural clinics combined with a limited campaign in the more remote regions would keep the incidence at that low level.

By concentrating the campaign within a brief period of two to three years, the usual slackening of effort which occurs during a protracted campaign could be avoided. All the remote regions should also be cleaned up, notwithstanding the great difficulties—a strenuous task for the physicians and their aides, who should therefore receive adequate salaries.

Arsenicals are not practicable in the countryside of Haiti because of the difficulty of getting the patients back for a second and third injection. For this reason penicillin in oil with beeswax (two injections administered at an interval of ten to twelve hours) is the drug of choice.

The campaign carried out by twelve physicians each assisted by five medical aides could be started from the rural clinics throughout the country, each physician having five of these under his care. Later, moving into more remote regions, ambulant clinics should be brought into use. The treatment of 600,000 patients per year would require 100,000 injections per month.

A country-wide anti-yaws campaign should be carried out only on the condition that in the meantime the rural clinics are equipped and made operative to such an extent that the results of the campaign can be maintained. The costs of such an enterprise are undoubtedly considerable, as is shown below; on the other hand, it is clear that a relatively short full-scale operation has many advantages over a protracted campaign lasting many years.

TABLE 1

Estimate of Costs of a Country-Wide Anti-Yaws Campaign

		Per year
Initial costs:		
14 pick-up cars	$22,400	
Instruments	1,700	
1 typewriter	150	
	$24,250	
Periodic costs:		
Monthly salaries:		
1 director	$ 600	
12 physicians at $200	2,400	
60 medical aides at $60	3,600	
1 secretary-stenographer	80	
14 chauffeurs at $60	840	
	$ 7,520	
TOTAL SALARIES		$ 90,240
Materials, etc.:		
Penicillin, 600,000 treatments		$760,000
Other drugs, alcohol, syringes, etc.		17,000
Gasoline, oil, etc., for 14 motorcars 1,000 miles per month at 3½ cents per mile		5,880
Upkeep and maintenance 14 motor cars at 2½ cents per mile		4,200
Expenses for travel subsistence, hire of horses, transport of drugs, etc.		12,000
Writing materials, forms, etc.		3,000
TOTAL MATERIALS, ETC.		$802,080

The total costs of this anti-yaws campaign during three years would thus amount to roughly $2.5 to $2.7 million.

PART II

PROBLEMS OF PRODUCTION, TRANSPORT, TRADE, AND FINANCE AS DETERMINANTS OF HAITI'S ECONOMIC DEVELOPMENT

Plateau Central: relatively infertile soils, formerly in cultivated crops, being improved for grazing. Madame Michel grass in the foreground.

CHAPTER I

Agricultural Development and Rural Welfare

A. NATURAL CHARACTERISTICS, ECONOMIC STRUCTURE, AND INSTITUTIONAL ENVIRONMENT OF HAITIAN AGRICULTURE

1. Nature of the Land

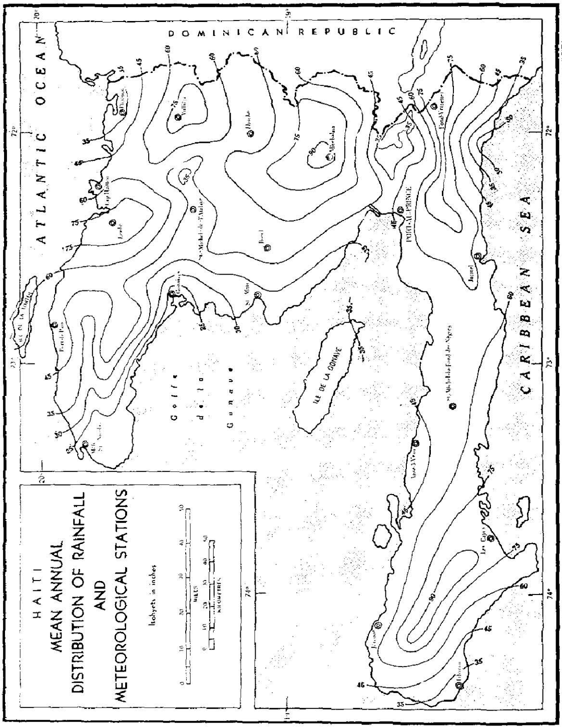
The soils of Haiti are generally derived from the weathering of a mountainous mass of limestone rock. There are only minor outcrops of volcanic rock. Approximately 80 per cent of the country is steeply mountainous and the soil over this area is thin, with frequent outcrops of limestone. When tilled, these soils are subject to rapid loss of productivity through erosion and depletion. On the more level mountain lands and minor hills the soils are red clay to clay loams, mainly derived from the weathering of the underlying limestone. The soils of these relatively level areas are high in aluminium compounds and low in silicates, and would be able to retain their productivity better under good management, including the use of fertilizers.

The alluvial soils of the plains and at the bottom of the mountain valleys are mostly dark gray to black clayey loams. In the upper reaches the narrow valleys are filled with small boulders and gravel washed down from the steep slopes. In the lower areas, as in the Artibonite, the alluvial soil is brown to gray, with a very tight subsoil.

In the dry plains most of the soils tend to be alkaline. As a result of the uneven distribution of the rainfall, excess alkali is therefore often present in the drier areas. The most common salts are sodium chloride and sodium carbonate, although "black alkali" is troublesome in certain areas.

Situated mainly in the lee of the Caribbean trade winds, Haiti has a mildly tropical climate, as regards temperature. Wet and dry periods alternate with fairly sharp seasonal division, varying as to dates between the north and the south. While the annual rainfall is adequate on an average, the rugged topography of the country causes an apparently capricious distribution of the rain and hence of the vegetation. The mountain system presents altitudes up to 8,790 feet, with a great diversity of relief, producing on the one hand areas of unusually high rainfall and low evaporation, and on the other, areas where conditions are the reverse. The average monthly distribution of rainfall at specific meteorological stations in Haiti is shown in figure 1.

Figure 1


HAITI
MEAN ANNUAL
DISTRIBUTION OF RAINFALL
AND
METEOROLOGICAL STATIONS
Isohyets in inches
MILES
KILOMETRES
DOMINICAN REPUBLIC
ATLANTIC OCEAN
CARIBBEAN SEA
Golfe de la Gonave
ILE DE LA GONAVE
PORT-AU-PRINCE
Jacmel
Les Cayes
UNITED NATIONS
MAP NO. 140
JULY 1949

Generally the southern peninsula is well watered, with sixty inches or more of rain in all parts except the southern slope of the western end and a small area about Anse-à-Pitres in the southeast. The northern plains and mountains receive more than fifty inches, with as much as one hundred inches on the higher mountains. Rainfall decreases from sixty inches on the mountains of the northern peninsula about Port-de-Paix, to twenty inches at Môle St. Nicolas, on the extreme western end. In the eastern part of the mainland between the two peninsulas, is the great Central Plateau with forty to sixty inches of rainfall, but with a sharply marked dry season. To its west, the entire coast from Môle St. Nicolas to the Cul-de-Sac Plain at Port-au-Prince is relatively dry, with twenty to forty inches of rain. This semi-arid area extends back from the coast over plains covered with mesquite-like shrubs and cacti to the mountains. The island of La Gonâve off the coast has similar cover and a rainfall of thirty to forty inches.

The lower portion of the Artibonite valley is in the semi-arid area; however, the rainfall increases rapidly up the valley until at Mirebalais the mean annual rainfall of 122 inches is the heaviest recorded at any station in Haiti. The sharp differences in rainfall distribution are shown by the fact that only twenty-five miles away, in the heart of the Cul-de-Sac Plain at about the same altitude, the driest area is found, with but twenty to thirty inches.

The rivers of Haiti are short, with great irregularity of flow. Even the Artibonite, the longest, is much reduced in volume of flow during the dry season, while during the rainy season it becomes a large and extremely dangerous torrent which has many times caused destruction and loss of life over a wide area. Smaller streams frequently dry up altogether in the dry season, but are a menace to habitation and an obstacle to transport during the rains. The porosity of the limestone formations characterizing most of the surface geology of Haiti has prevented the formation of natural reservoirs in high country, and consequently run-off is extremely rapid; but the same condition favours underground storage of water, which appears to be considerable in volume. The rapidity of run-off has been aggravated by deforestation and subsequent denudation of mountain areas.

In the floodplains, where the subsoil is impervious clay, and stream channels are quickly choked with silt from the rapidly-eroding watersheds, swamps and marshes have formed, sometimes with water made brackish by infiltration from the sea or by leaching of salts from the surrounding soils. One large marshy lake, the Etang Saumâtre, whose water is slightly brackish, is, together with the Lago de Enriquillo in the Dominican

One of the better areas of Haiti showing numerous individual houses in a mountainous area from which most of the forest cover has been removed to produce food crops. Production is low and fields are being abandoned. Note demonstration trench to the left dug to check erosion. Elaborate and costly conservation measures would be required to preserve even a low scale of production on these lands. Much of the steep slopes should be returned to forest cover and coffee production.

Republic, apparently a vestige of a prehistoric arm of the sea, which once connected the Gulf of Gonâve with the Bay of Neiba in the Caribbean, on the southern coast of the Dominican Republic. Today the Etang Saumâtre is quite isolated, and receives the waters of a few small streams from the adjacent mountains.

Taking due account of the marked differences in rainfall and exposure, and of the variations in altitude, the natural vegetation of Haiti is typically tropical. In the semi-arid areas, or in those seasonally arid, it is xerophytic, with a natural cover whose distinguishing features are mesquite-like bushes (*prosopia*), cacti, and agaves. In areas of moderate rainfall the counterparts of the usual tropical trees and plants characteristic of such areas elsewhere in the American tropics are to be seen. Only the alkaline tendency of the soil seems to discourage certain genera seen elsewhere, such as cashew (*anacardium*), which grows feebly in most parts of the country. On the higher slopes, Caribbean pine competes with mixed hardwoods for dominance, and in certain places, such as the great pine forest in the mountains of La Selle southeast of Port-au-Prince, constitutes, with its associated undergrowth, the sole cover.

Consequently, and seriously limited only by the availability of moisture, practically all the useful crops of frost-free areas can be produced in one part or another of Haiti.

2. Resources, Tenure, and Production Methods

From the land resources described in the preceding paragraphs, some 3,000,000 people are labouring to make a living. During the colonial period a prodigious treasure in indigo, sugar, coffee, cacao, precious woods, and other staples produced under the plantation system with chattel slaves imported from Africa, was exported each year from Haiti. During the wars of liberation and independence this pattern of production was abolished, to be succeeded by a subdivision of the land into individual holdings. The resultant today in agriculture shows a pattern of production characterized principally by a very large number of very small individual holdings dedicated primarily to the production of family subsistence. There persists, however, from colonial days, a pressure upon the farmer to produce exportable crops which will provide the country with the means of acquiring from abroad the elements necessary for the maintenance and modernization of its culture and institutions. A very few sizable plantations of bananas, sugar-cane, and sisal, mostly under foreign management, and certain extensive individual holdings, constitute an exception to the general pattern. The fact that subdivision of the land has taken place without a consistent survey and registration of titles contributes to

a general feeling of insecurity of ownership in agriculture, which affects *producers, distributors, and administrators* at all levels, and which constitutes the principal obstacle to agricultural development in the country.

The Haitian peasant's wish is to own his land in freehold, and only thus does he feel secure. But the non-existence of a cadastral system providing safe title, and the complex subdivision of land resulting from inheritance laws and traditions based on the quasi-polygamous peasant family, have created a situation in which even the freeholder is not secure. Litigation over land is a constant preoccupation of the peasant, and a steady source of income for the many lawyers who promote it. A great but unknown proportion of the land is worked under rental or sharecrop arrangements. Further, a large proportion of the land is held without title by squatters, whose right, however, is not recognized by law. It is probable that a great deal of the land now held and worked by individual peasants as their own, and even a large part of the land rented to tenant farmers by city-dwelling landholders, is actually State land in point of law.

The typical peasant cultivates his land with a hoe and a machete, almost his only farming tools. He plants his land with the same crop year after year—sometimes two or three crops a year. His seed is often poor, and his yields are low. He uses no fertilizer or animal manures, and usually burns the crop residue instead of adding it to the soil. As a consequence, much of the land of Haiti is worn out, and produces only inferior crops of probably reduced nutritive value. In his search for new lands the peasant strips the mountain tops and steep slopes of their protective forest cover, even though flatter land remains unused for lack of means of irrigation or flood control, or through ignorance of proper techniques in manuring, pest-control or cultivation. When the forest cover is cut and burned, the scant layer of fertile soil is exposed to the rains, which carry it to the valleys and to the sea. The land after a few years becomes less and less productive and is abandoned, and new lands are then cleared in the same way.

This destruction of the cover of the slopes and tops of the great mountain area of Haiti has reduced the country's valuable timber resources, decreased its coffee production areas, and poured the silt from the eroding bare soils into irrigation systems, stream beds and lakes in the valleys, thus increasing flood damage and rendering the valley lands less productive.

3. Ways of Life of the Peasants

Under these conditions the farmer of Haiti is extremely poor. Illiterate, as a rule, he is difficult to reach with new ideas and techniques in agriculture and living. The peasants raise food primarily for their own needs,

Rice fields in lagoon areas may be improved by water control, by use of better varieties, and better methods of tillage. Yields and quality are extremely low at present.

selling small amounts to buy the other bare necessities of life. Their diet is often close to the starvation level. Their clothing is inadequate, even for the mild climate of the country. Their houses are small and crudely made of crooked poles and mud, generally without floors, and are lacking in household equipment and furniture.

No adequate study of nutrition has been made in Haiti. While actual starvation is rare, the diseases of malnutrition are evident, and practically all persons who employ workmen report their lack of stamina. Regular meals do not seem to be the rule with rural and working people. They seem to "piece" at all times of the day. Pedlars bring articles of food to places where labourers are at work. Roadside stands are found on all roads and trails used by rural people. At such stands one may buy a banana, a mango, a bit of millet bread, rice, a brown sugar candy, sweet potatoes, etc. The usual breakfast consists of black coffee. There is a little snack some time during the mid-morning and one prepared meal at home in the evening. There are no regular stoves, and open fires are

commonly used, over which a tin can or other improvised cooking vessel is placed. Charcoal is used in crude burners, especially in the towns.

The towns are few in Haiti. While there are some concentrations of peasant homes along roads, trails, waterways, etc., dwellings are not normally grouped to form villages. Numerous isolated homes are found high up on the mountainsides, but the greatest number are in the foothills and in the valleys.

4. Transport Facilities

There are primary roads connecting the major towns, generally inadequately maintained and in poor condition. Fords, rather than bridges, are commonly used for stream crossings. Secondary roads and trails connect the areas of population with these main roads, with foot paths extending to the cabins in the mountainous areas. A few of the largest sugar and sisal enterprises use light railways connecting their plantations with the central plants. In a few areas sugar-cane is hauled to the mill by ox cart, but generally wheeled vehicles such as wagons, carts, and even wheelbarrows are not much used outside of the cities, and practically all agricultural supplies and farm produce are moved to and from the farms on the heads of the peasants or on burros or small ponies.

5. Irrigation

In colonial times Haiti had a network of well-developed irrigation systems. These, however, were used principally for export crops, so that while irrigation of sugar-cane and bananas is well understood, irrigation of food crops has always been neglected. Moreover, since colonial days these systems have had little continuous maintenance and have fallen into

Ford across the Limbe River. When waters are high ford is impassable. Boulders which have rolled down the mountain streams make crossings uncertain for trucks and jeeps picking their way across the channel.

disrepair. Even those which have been repaired from time to time, and the new ones built in recent years, are not in good condition in most cases One reason for this lack of care is that even when water is made available the peasants look on it not so much as a means of intensifying production but as a means of making their usual work easier; consequently not enough is produced to pay for maintenance of the systems. There is also a great lack of education in water use, and the farmer nearest the source is apt to use excessive and harmful quantities of water, while those farther down have an insufficient supply.

In order to correct abuses successive administrations have abolished the institutions with which they were associated. Thus, today, there is no charge for use of water in irrigation areas and hence no fund, other than the general revenue of the Government, which can be used for maintenance and repair of existing irrigation systems or for the construction of new ones. It is reported that the water rates were abolished because of the abuses formerly practised in their collection.

6. Taxation, Credit Conditions, and Local Trade Practices

Similarly, there is no general agricultural land tax which would pay for the maintenance of a land survey and title registration service. There is suspicion of such measures, because of fear of subsequent taxation and apprehension that holdings would be lost for lack of proper title. Conversely, it is impossible, without a survey, to provide secure titles and to establish a rational tax which could be used to encourage proper use of the land. In the absence of a rural land tax there is no equivalent road

Haitian and Mission technicians at one of numerous roadside stands where women sell food, millet cakes, fruit and miscellaneous articles.

duty which could take its place in rural areas by providing labour for construction and maintenance of essential public works. The *corvées* which existed in the past for this purpose were so badly abused that they have been abolished altogether in principle.

For lack of a land-tax revenue to be used for local public works, there have been created a number of licence fees collected locally, and convict labour is used in part for maintenance of roads. On the national scale the export of agricultural products is heavily taxed as a means of providing revenue for the general expenditures of the Government. Thus, for example, coffee, a major item of export, whose curve of production closely parallels the curve of general prosperity in Haiti, is subject to taxes which may total some 25 centimes against a purchase price to the peasant of about 60 centimes per pound. Because of the demands of other chapters of the national budget, little of this revenue returns as a benefit to the peasant producer of coffee, and the curve of production of coffee shows a consistent downward trend.

There is no public provision for rural credit in Haiti. To purchase land, equipment, or animals, to finance his crop, to repair his tools, or to do anything requiring more than the few gourdes the peasant manages to save from the sale of a small portion of his produce, he must go to private money-lenders, who frequently demand outrageous rates of interest. The money-lender is usually also a purchaser of peasant produce, notably coffee, and not uncommonly maintains a permanent lien upon the peasant through successive loans against forthcoming crops. In this way the purchaser, or *spéculateur,* strengthens his assurance of having a supply of produce at prices convenient to himself. The *spéculateur,* as an influential member of the community having a vested interest in things as they are, is a potent factor against change, especially since he is also active in politics.

The *spéculateur,* as a licensed middleman, is the normal outlet for the peasant's commercial produce, apart from the small amounts sold by peasant women directly to consumers at roadside and village markets. He purchases small quantities of produce from individual peasants, roughly grades it, and sells it to a wholesaler, who then stores it or transfers it commercially to the city and town markets, or to exporters, in the case of products like coffee. The *spéculateur* is either a rural town-dweller who has accumulated sufficient capital of his own for his credit and purchase operations, or one who has been advanced sums for this purpose by a wholesaler or exporter. There is a tendency for the *spéculateur* to become a simple commission agent for wholesalers or exporters.

The wholesalers and exporters, and middlemen of means, have access to credit from banks under strictly conventional commercial terms. There is no agricultural bank, nor do the existing banks provide agricultural credit as such to producers.

7. External Trade in Agricultural Goods

Haiti lacks a statistical reporting system capable of providing an estimate of the volume of agricultural production for local consumption. However, the fact that food imports are relatively unimportant shows that the country's farmers provide the great bulk of the country's food supply, however unsatisfactory it may be from the nutritional standpoint.

The major imports of Haiti for the fiscal year 1946/47—the last year for which complete importation data have as yet been published—are given below. While imports in that year and subsequently have been much higher than in the last years of the war, their relative composition has remained much the same, with the exception of an increase in automobiles and trucks, cotton goods and silk, and a decrease in machinery.

Table 2

Imports by Principal Groups, 1946/47

	Gourdes	*Per cent*
Textiles and clothing	46,616,356	34.2
Foodstuffs	20,566,695	15.1
Gasoline, kerosene and mineral oils	4,135,397	3.0
Machinery and apparatus	5,050,893	3.7
Iron and steel products	4,490,882	3.3
Soap	4,734,532	3.5
Automobiles and trucks	4,768,935	3.5
Rubber products	2,440,969	1.8
Chemical and pharmaceutical products	3,186,633	2.3
Household utensils	7,059,632	5.2
Agricultural implements, etc.	1,312,325	1.0
Jute bags	975,893	0.7
Tobacco products	2,577,345	1.9
Paper and paper products	1,977,537	1.5
All other imports	26,257,984	19.3
	136,152,008	100.0

Source: Banque Nationale de la République d'Haïti, "Annual Report of the Fiscal Department" for the fiscal year October 1946-September 1947.

Historically, the major exports from Haiti have been coffee, bananas, sugar, cotton, mahogany, log wood and cacao. These products with the exception of sugar and, in part, also bananas, have come from peasant production on small subsistence farms.

The present major exports from Haiti are given in the following table and reflect the overwhelming importance of agriculture in the economy.

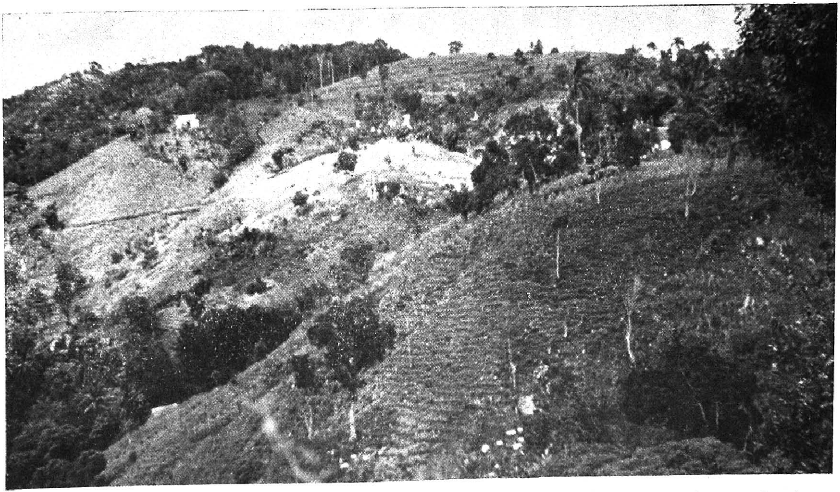
TABLE 3

Agricultural Exports, 1946/47 and 1947/48

Products	*Fiscal year 1946/47 (gourdes)*	*Fiscal year 1947/48 (gourdes)*	*Percentages (+) Increase (−) Decrease* — *In value*	*In quantity*
Coffee	60,656,839	53,875,658	(−) 11	(−) 8
Bananas	30,648,647	14,201,497	(−) 54	(−) 51
Raw sugar	14,174,536	11,076,151	(−) 22	(−) 23
Essential oils	2,694,269	1,032,221	(−) 62	
Sisal	28,356,768	40,564,784	(+) 43	(+) 23
Cotton[1]	776,964	9,304,487	(+) 1.097	(+) 1.128
Handicraft articles	4,462,681	8,410,665	(+) 88	
Cacao	3,867,361	6,360,990	(+) 64	(−) 6
Molasses	1,632,275	2,813,181	(+) 72	(+) 7
Goatskins	1,464,623	1,716,283	(+) 17	(+) 15
Cottonseed cake .	592,840	1,174,780	(+) 98	(+) 81

[1] Large quantities of cotton produced in 1946/47 were sold only in 1947/48.
Source: Banque Nationale de la République d'Haïti, "Monthly Bulletin of the Fiscal Department", September 1948, Port-au-Prince, Haiti.

Coffee deserves special mention as the most valuable single export crop of Haiti during this century. Haitian coffee, though crudely produced, can be of fine quality, and has commanded a place in the European and, latterly, the United States market. It is produced by the peasant with a minimum of effort, at all altitudes. Each peasant family harvests the berries from a few bushes with little concern for their care and for the quality of the product. Traditionally the coffee is processed by the dry method and decorticated in wooden mortars, producing a *café pilé* which the peasant prefers because he can hold it for better prices from the coffee *spéculateur* toward the end of the season. Alternatively, the peasant sells the berries to a processing plant where they are washed in the usual modern way. A minimum price to the producer has been established, but no price incentive for quality is offered to him. Instead, penalties are imposed for the presence of broken or inferior beans or foreign matter in the dried product, or for green fruit among the ripe berries offered for sale. Inspection for quality is carried out by special *contrôleurs de denrées* detailed to coffee buying centres by the Ministry of Agriculture. Currently, prices for coffee are high, and the peasant can sell almost any grade at a price well above the minimum. In practice the penalties



Forested areas, valuable as cover for coffee, also for timber, fruits, and for water and soil conservation, are cleared to produce food. On the steep slopes, so prevalent in Haiti, soils soon lose their productivity. As additional plots are cleared, the productive capacity of the land of Haiti is reduced.

imposed for poor quality do not accomplish the desired result. As a consequence, the quality of Haitian coffee has suffered, and complaints have been received from foreign purchasers.

Scarcity and high prices of foodstuffs in recent years, due to drought, inflation, and other causes, have turned the peasant's attention from care of his coffee bushes to the production of food crops, however inefficiently these may be produced on the steep slopes of the best coffee areas, or however destructive of the soil the practice may be. In some areas coffee bushes have been cut down altogether and replaced by food crops, which provide a greater feeling of security and are subject neither to policing for quality nor to taxation. Coffee production in Haiti has declined greatly in recent years, though year-to-year variations in the yield somewhat mask the trend. Haiti now produces roughly one-fourth—some eight to ten million kilos—less of coffee than during the early 1920's. The annual exports of coffee averaged 30,700 metric tons during the years 1916 to 1926, 27,800 tons during the period 1926 to 1939, and 22,900 tons from 1939 to 1946. The value of the exports, on the other hand, has been sustained on the whole in recent years by a substantial increase in the unit price since pre-war years.

The export of bananas is relatively new in Haiti, beginning around 1936 and expanding rapidly to approximately 7,000,000 stems in the early 1940's. This progressive increase was first interrupted by difficulties of transport during the war, and later by political adjustments in Government-granted market concessions which caused confusion and loss to the peasant and discouraged his further planting of bananas as well as the proper handling of the crop. (For further observations see appendix, section (viii), page 141.)

A steady production of bananas of good quality is maintained on the modern plantations of the Standard Fruit Company near St. Marc.

Sisal, also a new crop for Haiti, is produced almost entirely on large plantations associated with central processing plants, owned in major part by private enterprises—the largest of which are the Plantation Dauphin and Haitian Agricultural Corporation (HACOR), both in the Département du Nord—and in substantial part also by SHADA.[1] These plantations are in full production, and are prospering under the current high prices for sisal. These prices may decline in years to come, however, as many areas in the Pacific, the Philippines, Indonesia, etc., which were large producers of manila hemp and other coarse fibres (competing with sisal) at the time of their invasion by the Japanese, are now expected to resume full and perhaps

[1] *Société haïtiano-américaine de développement agricole*, a Government-owned corporation.

increased production. There is in Haiti plenty of land unsuited for food production which could be cultivated to sisal.

Haitian cotton is harvested principally from a perennial species grown with a minimum of care in very small patches by the peasants. Though the product is of good quality, the output is uncertain, largely because of insect damage and for lack of sustained care and weed control. Insect pests are difficult to check in small scattered plantings, especially as the protracted period of fruition of perennial cotton allows ample opportunity for the pests to breed and prolongs the period during which control measures must be maintained. The Mexican boll weevil and other pests have heavily curtailed the cotton crop, in consequence of which cotton exports have dropped from an annual total of over 6,000 metric tons in the 1930's to less than 3,000 tons in the 1940's. The newly established modern plant (at Port-au-Prince) for spinning and weaving of cotton, which has recently begun operations, is expected when it reaches full capacity to absorb the greater part of the current production of raw cotton.

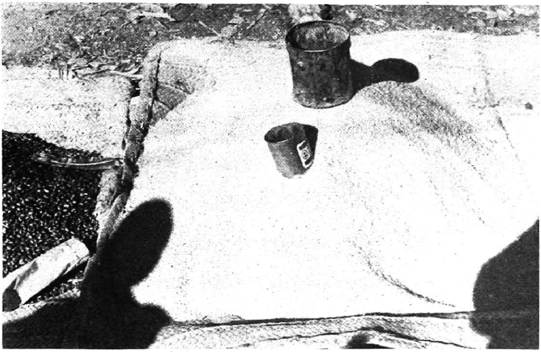
The unusually high price for cacao accounts for an increased return from the export of this crop in recent years. The number of trees in production, their condition, and the quality of the product have all declined in the last few decades through neglect, both of the trees and in the processing of the bean. Praedial larceny, in this as in other crops, has been a deterrent to expansion of production and care to improve quality. (For further observations see appendix, section (i), page 131.)

Sugar cane is grown under irrigation, principally on the Cul-de-Sac and Léogâne plains near Port-au-Prince. Except for the sugar cane used by small mills throughout the country for production of *sirop* and *tafia*, a mild potstill rum, the bulk of sugar cane is processed by HASCO,[1] a private corporation owned in the United States, to produce molasses and unrefined sugar, both of which are exported, principally to the United Kingdom, at world market prices. A small amount of sugar is refined for local consumption. Rum of exceptionally fine quality is produced by several private Haitian companies, using *sirop* or cane juice in the mash, rather than molasses. Most of the product is consumed in Haiti. HASCO also possesses facilities for producing rum, but does not use them at present because of unfavourable legislation.

Although good varieties of sugar cane are used by HASCO in its plantations, yields are markedly low in comparison with those in neighbouring countries. No fertilizer is used, but trash is left on the ground, and a fifth year fallowing is practised. Irrigation is from deep wells, on land owned or

[1] Haito-American Sugar Company.

Extensive sisal plantings have been made in Haiti in recent years, some on soil suitable for other crops. The sisal above, however, is doing reasonably well on rocky dry soil which would otherwise be unproductive.



Food markets. Rice, beans, meal, etc., are piled loosely on mats for sale. No standard unit of measure or weight is used. Usual measuring devices are tin cans or buckets.

leased by the Company. In addition to the produce of its own plantations, HASCO relies on sugar cane which it purchases from peasants in the surrounding area, who also work as labourers on the HASCO plantations. (For further observations see appendix, section (vii), page 141.)

Essential oils are a new element in Haiti's exports. The industry has expanded rapidly under private initiative and financing, and appears to have good prospects. The oil is produced from plants grown on sizable plantations, and is not a peasant product.

8. Production for Local Consumption

The principal crops grown for local consumption are maize, millet, rice, beans, pigeon peas, sweet potatoes, manioc, bananas, and plantains. The principal fruits are mangos, avocados, oranges, limes, and grapefruit. They are all peasant produce, and in general their quality and presentation are poor. Storage facilities are most primitive and inadequate, and great losses are incurred from infestation by insects and rodents, and through theft.

[Notes and recommendations on a number of specific crops—both food crops and industrial plants—to which only brief reference if any has been made above, will be found in the appendix, pages 131-143.]

Livestock is reared without much method by the peasants. Cattle and goats are entirely grass-fed on pasture, usually on tether, and swine are

Selling native kidney beans and café pilé in village market.

largely left to forage for themselves, as are also poultry. They are sold whenever necessity demands or opportunity offers, and find their way to the slaughter houses and markets of the towns and cities. The quality of livestock is poor, and there is great loss from lack of thriftiness and from infestation with parasites. A dairy industry exists only near the cities. Goat milk is not used by the peasants. Donkeys and small horses are reared for transport. There is no veterinary service and there are no breeding stations, except at a special project of recent development in the Central Plateau.

9. Work Practices

Agricultural labour is obtainable in Haiti at the legal minimum wage of gourdes 3.50 ($U.S.0.70) a day, which is considered high by many employers, who prefer to pay on a piece-work basis. It is reported that labour is inefficient, whether under the influence of antiquated practices and for lack of modern implements, or for reasons of malnutrition and debilitating diseases and parasite infestation. A traditional feature of Haitian agriculture is the *coumbite,* a co-operative working group of neighbours, analogous to the house-raising or corn-husking bees of other countries. The work of a coumbite in clearing or preparing the land of a peasant is accompanied by songs and drums, and followed by a feast at the expense of the beneficiary. There is no doubt that the coumbite institution is capable of giving satisfaction, individually and socially, and that in the coumbite is the germ of

Labourers carrying coffee from warehouse to boat for shipment. Organized as a *coumbite* four men in front make music on bamboo horns, beating the time on shells or bones. Entire group move in a body to the boat, unload their coffee, and march or dance back for the next load.

higher co-operative institutions which Haiti must develop in the future; but the efficiency of the system as practised so far is questionable. The quality and volume of work contributed in a coumbite are almost entirely a matter of individual determination, and the loss in efficiency caused by concentrating so many individuals upon a given task that they get in each other's way, is taken to be compensated for by the gains in social satisfaction. This pattern appears to carry over into more formal work, such as that of hired labour, and contributes to lower the reputation of the Haitian with regard to his capacity to work. Thus, an excessive number of workers demand employment on a given task, with the result that each can receive only a small share of the total compensation, and strict observance of the minimum wage regulations is defeated.

10. Agricultural Training

The successive administrations of the Government of Haiti have been concerned with improving the conditions of life of the Haitian farmer, and with strengthening Haitian agricultural production for export. The Ministry of Agriculture has maintained an experiment station, a school of professional agriculture, a school for rural teachers, an agricultural extension service, a service to police the quality of agricultural products for export, and a number of technical agricultural services, such as the Forestry Service and others. Good work has been done over the years in the introduction and testing of improved plant varieties and livestock, in the production of grafted fruit-tree seedlings and seedlings for reforestation, in the introduction of improved techniques of cultivation and plant protection, and in many other branches of agriculture. A considerable number of professional agronomists have been trained in Haiti, some of whom have subsequently been sent abroad for further training. Rural teachers in considerable numbers have acquired at the Rural Normal School at Damien the orientation which has enabled them to be effective in their work in the countryside. The extension agents have patiently laboured at their difficult task of educating the peasant to modern ways, and the specialists of the Ministry of Agriculture have contributed their knowledge to the operation of the Technical Services.

Nevertheless, the task has been too great. The bulk of production continues to be carried out by primitive means, and the volume and quality of valuable export crops have declined. Evidently the means available and the methods in use are inadequate to cope with factors of administrative discontinuity, political instability, and economic insecurity which act against the development of agricultural production. The experimental work of the Ministry has largely ceased, the training of agronomists tends to be overly

academic, with insufficient emphasis on practical field experience. The agricultural orientation of rural teachers has been weakened. The effort to bring about an improvement in the quality of agricultural produce by inspection and the imposition of penalties has not only failed entirely, but among the peasants has brought into disrepute the efforts of true extension agents seeking to teach the use of better methods and means of production. The Technical Services, thus divorced from vital contact with the farm population, have also suffered in quality.

11. Development Measures

At the same time, the Government has adopted other approaches to the problem of agricultural development. SHADA was created jointly with the United States Export-Import Bank to promote production of certain agricultural materials of strategic importance in wartime, and is at present operating successful projects for production of sisal, principally for export, and lumber for local use, by sustained-yield management of the Pine Forest. Its current revenue is largely used to amortize a loan from the Export-Import Bank. SCIPA,[1] a food production agency in the Haitian Government Department of Agriculture, which is financed jointly by the Haitian Government and the Institute for Inter-American Affairs operating under the United States Department of State, and administered by technical experts of that Institute, has been developing a programme of special projects in food production, including livestock management, irrigation development, use of machinery, and others. The National Coffee Office has been established to promote the export of high-quality coffee. At present its functions are limited to supervision of the quality of the product. The *Régie du Tabac* has recently been established to bring under control and develop the tobacco industry of the country. At present the Haitian Government and Legislature are engaged in laying the groundwork for a special Artibonite Authority to co-ordinate governmental services and execute a comprehensive plan of flood control, irrigation, resettlement, and agricultural development, including about 150,000 acres, 60,000 of which are to be irrigated, in the lower Artibonite valley, for which a loan of \$4.2 million has just been obtained from the Export-Import Bank. From time to time the Government has undertaken other projects of agricultural development, such as the construction and repair of irrigation works, the construction of coffee-drying platforms, and the operation of resettlement projects, e.g., most recently, on the plateau of Batiste (near the newly constructed model town of Belladère) and at Fond Parisien, both in previously forsaken areas close to the eastern frontier.

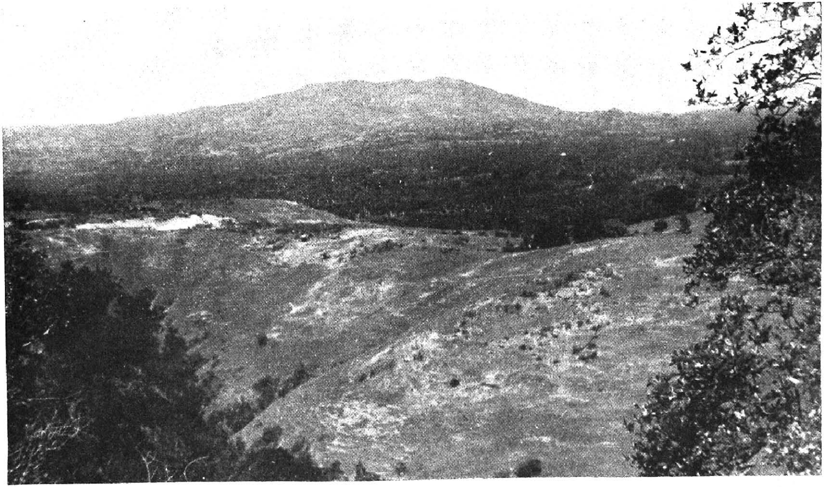
[1] *Service coopératif interaméricain de production agricole.*

It is clear that there has been no lack of awareness of the problems of Haitian agriculture, or of devotion to the cause of improving it. But over the years there has been discontinuity of policy and procedure, diffusion over too great an area of the limited personnel and resources available, lack of co-ordination among Government agricultural and related services, and lack of a governmental mechanism for continued appraisal of the priority position of the diverse projects for agricultural development which at any given moment compete for attention and funds. Another fundamental cause of the lack of development of agricultural production and consumption is the long-standing conflict of interest between the producing peasant on the one hand, who desires primarily a very modest but safe subsistence for himself and his family, and the Government and the exporting interests on the other, whose attention is directed principally to the production of commercial crops which can, through exportation, provide Haiti with goods from abroad which are essential to the country's existence in the modern world. This unreconciled conflict results on the one hand in an evasive, suspicious and even unco-operative attitude on the part of the peasant, and on the other, in a coercive attitude on the part of the governmental authorities, which together have brought about the present stalemate.

B. RECOMMENDATIONS ON POLICY AND PROCEDURE

The agricultural situation depicted above is essentially the consequence of the pressure of a dense and economically uneducated population upon limited, vulnerable and tragically shrinking natural resources. The agricultural institutions and practices responsible for the continuing destruction of these resources can only be changed by careful and persistent effort. Once the imperative need for such a determined effort is unequivocally realized—and the Mission believes it is now so realized by the leaders of the Haitian nation—the situation is by no means hopeless. Not only can the productive area be considerably increased through land reclamation by irrigation, drainage, and reforestation, but a very considerable increase in production can be achieved on the present cultivated area through revision of the patterns of land use, adoption of better implements and seed, better techniques of production, and better organization and technical improvement of governmental agricultural services. Other countries in Latin America have similar though not equally acute problems of agricultural production and consumption against a background of diminishing natural resources, but have not yet shown so general an awareness of their situation and desire to remedy it as has Haiti. This is the first step toward improvement, and is an encouraging sign.

Haiti is not unprovided with persons technically qualified to initiate the attack upon her agricultural and food problems, nor does she lack finances



Plateau Central: eroded areas, once tilled, cover large tracts which the Department of Agriculture seeks to restore to pasture for livestock.

necessary to undertake—in mobilizing her abundant and poorly employed manpower—a rational programme for building a healthy agriculture and strengthening her economic structure. Although capital from outside the country will no doubt be required for major works, the basic accomplishments are to be obtained through complete utilization of the country's own resources of hand and brain, careful redirection and budgeting of the finances available for agricultural reorganization and improvement, and training of the increased number of teachers and leaders necessary to carry out the gigantic educational task involved in modernizing the agricultural process.

1. *The reorganization of Haitian agriculture should be undertaken as a pressing national enterprise,* a patriotic venture, marshalling the energies and skills of all the people, and thus infusing into the entire population a sense of security and purposefulness in their work. The inspiration, planning, guidance and over-all supervision of this reorganization and its co-ordination with development work in other economic fields—e.g., power utilization, industry, transport, trade promotion, public finance and credit organization—and in the related fields of education and public health, should be a principal task of the National Resources and Development Board, the establishment of which is recommended elsewhere in this report (see Introduction, page 7).

2. Since funds and the available number of technicians, leaders, and teachers are limited, and since the introduction of new patterns and methods of agricultural production must be undertaken experimentally at first, the Mission wishes to make only those recommendations which it considers are necessary and practicable at the present stage with the means at hand, and *therefore recommends that the effort to improve agricultural production be centred successively upon a limited number of comprehensive projects for agricultural development;* that is, that energies be concentrated upon one natural development area after another, where one or more central activities, such as the construction, expansion, or improvement of an irrigation system, the operation of a pasture-management project, or a project for reforestation, can serve as a focal point for concentration and co-ordination of governmental and other services. Each such project would be a centre for recording experience and training personnel to be used subsequently in other similar project areas.

The fundamental objective of each project should be to establish securely comprehensive patterns of land use which can be followed permanently to restore and maintain the productive natural resources. In a mountainous country such as Haiti, a considerable part of which is at least seasonally under existing forest stands, or for forest development, the project area

Rice harvest in dry season. Since many families claim ownership or other rights to irregular patches in this rice field, and since lands are unsurveyed and titles are largely unrecorded, the result is great insecurity and lack of respect for rights of others.

semi-arid, the basic concern should be the maintenance and regulation of the water supply, to provide for the needs of crops, to protect the soil from loss and depletion, and to guard against destruction by floods and the costly formation of marshes and swamps. This can be done only by restoration, protection, and careful management of the forests of the country, especially on the sloping lands. A greater economic return can be had from properly managed forests than is now obtained from cropping and grazing on steep slopes, at a tragic cost in terms of soil and water resources.

The recommendation to approach the programme of agricultural rehabilitation through the execution of a series of projects does not preclude the need for planning on a national scale. On the contrary, the Mission believes that the experience gained on individual projects will provide fundamental information which is now lacking, and furnish a basis for the teaching of additional personnel, so that eventually realistic programmes may be planned for the whole country. Such plans, aiming at the establishment of a permanently satisfactory equilibrium between the productive power of the national resources, and the needs of the population, should be formulated as soon as the means for planning are at hand.

3. *The Mission recommends that the starting point of all agricultural development projects be a study of the tenure and use of land in the respective areas.* It is not proposed that a complete cadastral survey be undertaken at first, but that with the aid of the aerial photographs which are available for the whole country, and the topographic maps which have been prepared from these aerial photographs, community surveys be made in accordance with the established technique used in similar situations in other countries, for the purpose of recording at least approximately the boundaries of holdings, the present use and tenure and its classification as to type, and that these surveys be used as a basis for the legal establishment of the ownership of the land. The possession of the information obtainable through such surveys would permit accurate and topographically sound delimitation and definition of the area covered by a project, estimation of the costs and number of persons involved, and evaluation of the benefits to be derived, all of which are essential factors in the choice of projects to be undertaken.

4. *The Mission recommends that all projects for agricultural reorganization and improvement be planned comprehensively—both on a long-term and on an immediate basis—rather than with exclusive reference to a specific undertaking* such as the improvement of an irrigation system. For each project there should be drawn up a plan which should provide realistically for secure tenure of the land, conservation of soil, water, and forest resources, the best permanent use of these resources for agricultural produc-

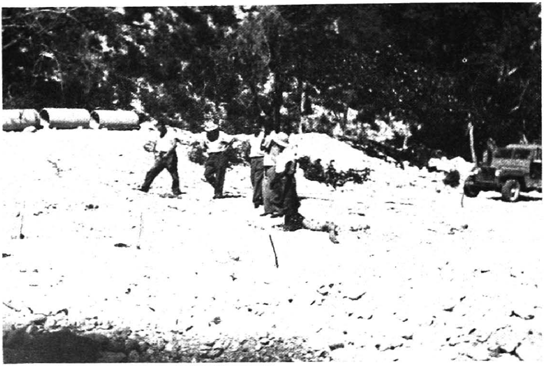
tion, and for the education of children and adults for more efficient production and more hygienic and more comfortable living. While the objective of the project is economic in character, and the good of Haiti may require the production of an exportable crop as the principal activity to be developed on the project, attention must be given abundantly to the food supply, the health, the education, the social opportunities, and the general welfare of the population of the project. The project plan should be made known to all persons in the area, including the children in the schools, and should be used as the co-ordinating force of the project, to bring about a harmonious concentration of Government services for the development of the community, and to stimulate the community's own initiative for the improvement of its conditions of life.[1]

The encouragement of rural industries should not be neglected in the preparation of plans for agricultural development. Among such industries are those for processing agricultural produce, such as sugar mills producing *rapadou* and *sirop*, charcoal kilns of an efficient type, lime kilns, coffee hullers, decorticators, and dryers, rice mills, sisal decorticators, oil presses for benzolive, African oil palm, and other sources of edible oil, fish drying or pickling plants, central compost pits, and many others. Small woodworking plants, to produce furniture, carts, and articles of household use, and food preservation plants, as well as storage structure, tobacco curing-houses, and the like, should all be provided for in comprehensive planning for agricultural development.

5. *The Mission recommends that the delimitation of areas proposed for development be made whenever possible on the basis of topographic unity.* Thus, for example, a project area for which agricultural development through gravity irrigation is proposed, should include the immediate watershed from which the supply of water is derived, so that provision can be made for protection of the water supply, and so that people living in the upper, non-irrigated parts of the area may be guided to activities complementary to those of their downstream neighbours, and also benefit from the development project. Such activities as controlled livestock management, controlled production of charcoal, the manufacture of wood articles, especially furniture, and the production of coffee should be encouraged among the inhabitants of the slopes, who would exchange their products for food which can be grown upon the irrigated area more efficiently than on the slopes and without damage to the water supply.

Conversely, for example, when the project proposal under discussion is a plan for afforestation with shade-trees for coffee, for introduction of coffee

[1] For an example, see *Survey of Agricultural Resources, Vouraikos River Watershed, Greece*, published by UNRRA, 1947; available through FAO.



Dry river bed filled with boulders, rocks and debris into which the water disappears. Irrigation systems using water from mountain streams must carry the water over this area in tight flumes or tile.

should be planned so as to include areas suitable for production of annual food crops sufficient to eliminate the need for attempting to produce these crops on slopes subject to soil loss by erosion.

6. *The Mission recommends, as a general policy, that any agricultural development project directly subsidized by Government funds should be so planned as to secure repayment to the Government of these funds* (not including those expended to provide normal public services). It is a good principle, in the choice of projects for agricultural development, that such projects should pay for themselves directly. The use of this principle will call for an accurate estimate of projected costs, and for a realistic evaluation of the benefits to be obtained. While it is true that a general economic improvement resulting from the operation of a development project ultimately reflects favourably upon the Government's finances, the persons affected by the project, those included in the project area and who use its facilities, are the ones who benefit directly from it, and it is reasonable to demand that they pay for it. This releases funds to the Government for use on other projects, and compensates in some degree for the fact that many projects for agricultural improvement cannot be undertaken simultaneously over the entire country. Thus, for example, the cost of construct-

New planting of bananas on Standard Fruit Company's plantation near St. Marc, one of the few large plantations in Haiti. Good cultural and spraying methods are used in the care of the crop.

ing or improving a given irrigation system should be amortized by the users of the water distributed through that system, who should be financially responsible for its proper maintenance. Care should be taken not to endanger the success of a project by imposing too rapid a rate of amortization upon its beneficiaries, and when direct benefits accrue to the Government from the operation of a project, a careful effort should be made to subtract the value of these benefits from the charges upon the main beneficiaries. But the element of subsidy should be minimized, and the population of the project area should be made aware that project facilities cost money, which they must repay, and require maintenance, which they must provide for.

7. The Mission believes that a survey of the use and tenure of land, carried out in one development area after another, will reveal that very considerable areas are owned by the State. *The Mission recommends that full use of this body of public land be made to bring about improved patterns of land utilization* through secure settlement of agricultural families on such lands, subject to the continuance of approved practices of land use. The principle that the land shall be used for the good of the community is embodied in the Constitution of Haiti, and the conditional, but secure,

holding of land by agricultural families is provided for in the legislation concerning the *bien rural de famille*. The Mission recommends that very careful attention be given to this complex problem and to the unique opportunity afforded by the present situation for improving the condition of tenure of a large proportion of the agricultural land of Haiti. The Mission recommends that special attention be given to the possibility of introducing leasehold tenure on such lands and recommends careful study of the discussion of this question, contained in the *Report of the Caribbean Land Tenure Symposium* (Washington, D.C., 1946), which was attended by Haitian representatives in Puerto Rico in 1944, under the auspices of the Caribbean Commission. The major points of contrast between the freehold and leasehold systems are summarized in this document as follows:

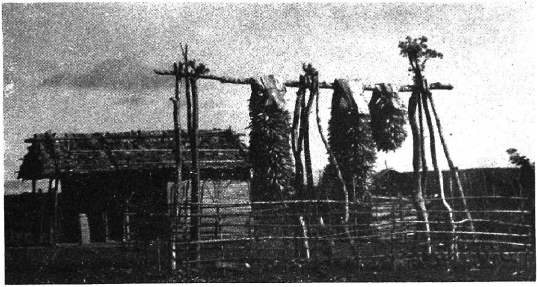
"(*a*) Under the freehold system acquisition of land is based on the ability to buy; under the leasehold system on character and the ability to occupy and operate the land. The freehold system permits of land ownership by persons who make no effort to develop their land for agricultural, residential or social purposes. The leasehold system requires residence on the holding and personal management of the farm according to rules of good husbandry, subject to penalties for dilapidations and compensation for unexhaused improvements.

"(*b*) Under the freehold system the capital resources of the purchaser are expended on the purchase of the land; if they are borrowed the temptation is to overcrop the soil to meet interest charges and speed up payment of the purchase price. Under the leasehold system, all the capital resources are available for productive use on the land.

"(*c*) The freehold system permits an uncontrolled facility of obtaining credit. The leasehold system makes possible a greater control of the direction of credit and prohibits foreclosures because of financial obligations.

"(*d*) Under the leasehold system the uneconomic fragmentation common among freehold holdings can be prevented."

The Mission, in its desire to make recommendations which it is confident the Government is in a position to implement, does not recommend the introduction of a land tax. In the absence of sufficient information concerning the ownership and conditions of tenure of land in Haiti, the Mission is not in a position to recommend realistically to this effect, and furthermore recognizes that very great opposition would arise against a Government proposal for introduction of a general land tax. The Mission, however, recognizes the Government's need for revenue from such a tax and the relative preferability of this source of revenue over others, and believes that a leasehold system of tenure for State lands could in the course of time be developed to provide revenue from such lands in lieu of a direct tax; while, as comprehensive projects for agricultural improvement were undertaken on more and more of the major agricultural areas of Haiti, amortization and maintenance charges for facilities benefiting private holdings would



Farm house, Plateau Central. Corn hung for storage.

Storage on rat-proofed poles. Losses of grain in storage from rats, insects, and molds is very severe.

eventually bring about a situation in which the holders were regularly paying the Government sums proportional to the improved productive power of their lands; or in other words, the equivalent of a rational land tax, which would provide the Government with revenue to amortize development costs, and at the same time constitute an efficient mechanism for protecting the good of the land and securing optimum utilization of the land resource.

8. *The Mission recommends that a small experimental rural credit service be created,* either as part of a development project such as that planned for the lower Artibonite, or in the National Bank to operate in conjunction with such projects, to serve as a "pilot" service, and to be succeeded as soon as experience warrants, by a more comprehensive rural credit organization. It is recommended that before the pilot project in rural credit is established, careful study be made of the experience in this matter of Jamaica, Costa Rica, and El Salvador, which, as small countries, have problems similar to those of Haiti. The establishment of an organization for rural credit, which Haiti critically needs, must be securely founded and must be developed carefully over a period of time, during which experience can be gained, personnel can be trained, and mutual confidence between client and creditor can be established. The credit service, to fulfil its purpose, must reach the economically weak small producer, but must do so without excessive risk of default. In order to be safeguarded initially against such risk, the credit service can take advantage of development projects where the agricultural or other rural operations requiring credit are under effective technical supervision. Later, as the credit service is strengthened in experience and capitalization, it can extend credit on a wide variety of rural operations carried out under co-operative or individual auspices and supervised technically by the appropriate governmental services.

A field in which the earliest attention is recommended is that of grain storage. A crop-financing operation providing for payment in kind and for safe storage of the products so received for subsequent sale after the harvest period, would contribute valuable experience for the establishment later of a larger-scale storage operation with a view to regulation of prices of staple foodstuffs and their rational grading as to quality. The Government now possesses some seventeen small portable grain-storage bins which were imported for such a purpose, but which have not fulfilled their function. Installation and competent operation of these bins in conjunction with crop-financing or similar loans at the centre of effectively supervised agricultural development projects would provide a safe opportunity for pioneering in this field.

Other types of credit operation which should be undertaken cautiously but as soon as possible, and preferably in conjunction with supervised agricultural development projects, are loans for individual or group purchase of tillage implements, improved bulls and other breeding stock, equipment for spraying or dusting or otherwise controlling insects and other pests and diseases, equipment for processing specific agricultural products, such as rice threshers and mills, hullers, decorticators, and dryers for coffee, and the like; and equipment for small rural industries, such as sawmills, ceramic kilns, woodworking shops, or tanning and leather-working plants.

As the credit function develops, it can lend money not only within technically supervised agricultural development projects, but for financing the projects themselves. Thus, loans are needed for the development of small irrigation systems, for establishing fruit orchards or other tree plantations, for the consolidation of lands for mechanization, and for many other similar purposes, either individually or co-operatively undertaken. The credit service should always be assured of adequate technical supervision of such projects and be able to draw upon the technical services of the Government for this purpose; it should be further safeguarded by the services of local farmers' advisory committees.

9. *The Mission recommends that the Government purchase exclusively high-grade coffee directly from producers, at preferential prices,* grade it, and offer this coffee for sale on the foreign market. SHADA will in a few years become a substantial producer of high-altitude washed coffee, and could appropriately act as the Government's agent in this matter. If additional projects for establishment of coffee plantations on State lands at high elevations are carried out by the Government for eventual operation by small leaseholders, as recommended elsewhere in this report, further quantities of coffee will become available to the Government. This recommendation is made with the object of providing an incentive for increased production of high-grade coffee, and as a means of passing on to the producer a part of the export tax on coffee, which should in any case be reduced as soon as the financial position of the Government permits.

10. *The Mission recommends that the Agricultural Extension Service be reorganized and strengthened* to provide effective aid and encouragement directly to the peasant for the improvement of his production and his conditions of life. It is essential for this purpose that the posts of *contrôleur de denrées* be entirely abolished, that any connexion between the functions of the rural police and the Ministry of Agriculture be definitely severed, and that the agricultural extension agents be relieved of all responsibility other than that required by law of all citizens, of reporting infractions of police regulations by the rural inhabitants. It is suggested that the title of

extension agent be changed, if necessary, to another, such as agricultural adviser, in order to erase from the mind of the peasant any connotation of coercive functions in connexion with the Extension Service. On the other hand, it is recommended that every effort be made to strengthen and clarify the function of the rural police, as a service quite unconnected with the Ministry of Agriculture, in order to discourage irresponsibility and praedial larceny among the peasants and to promote a feeling of security in rural areas.

It is recommended that education and economic incentives be used to stimulate an increase in quantity and an improvement in quality of commercial crops, and that attempts to achieve this end by policing be abandoned.

It is recommended that the Extension Service be materially decentralized by the creation of approximately six principal permanent extension centres in the main agricultural regions of the country. These centres can profitably be established in association with comprehensive agricultural development projects, as these are undertaken, and no such project should be without at least one extension agent or agricultural adviser who can devote full attention to the needs of its people for agricultural instruction and services. These permanent extension centres would be headed by carefully chosen graduates of Damien, who would have considerable responsibility and latitude of action, relying upon Damien as central headquarters for administrative services, supplies, and research, and for special technical aid whenever necessary.

The extension agents would act as agricultural teachers and leaders and generally try to promote through education the improvement of rural nutrition and welfare. They should be men of character and self-discipline, dedicated permanently to the agricultural redemption of their land by carrying out, through the peasants, the agricultural development programmes decided upon for their regions. They should be provided with attractive conditions of life in their areas and receive adequate salaries, living quarters, and public recognition, in order to be encouraged to reside *permanently in the countryside. Their work should be closely related to* that of the practical agricultural schools and the activities of all developmental agencies working in their areas. They should be provided with adequate means of transport, and, whenever necessary, with a sufficient number of practical assistants drawn from the areas to which they are assigned.

11. *The Mission recommends that agricultural research and experimentation be intensified within a limited scope,* and that it be centred upon the Extension Service at Damien. It is recommended that major and specialized research and experimentation, such as experimental work in

breeding, be referred to co-operating experiment stations in neighbouring countries, and that Damien concentrate its energies on the research incidental and necessary to the programme of extension, such as the testing of varieties of plants, primary examination of samples of soil, insects, produce, and the like; and field testing of different methods of tillage, cultivation, rotation, and combinations of crops. Appropriate parts of this work can be carried out at field stations located at the major extension centres in the countryside.

It is recommended that the Extension Service be made responsible also for the establishment and maintenance of tree nurseries, animal breeding stations, and seed-production farms, wherever these cannot be better provided for as a part of development projects.

12. *The Mission recommends that the Agricultural School at Damien be reorganized to produce yearly a graduating class of ten to twenty practical agronomists,* instead of the present three-yearly promotion of about thirty. The only immediate additional expenditure involved in this change would be the construction of additional dormitory facilities, since the present number of teaching staff is ample, if not excessive.

The objective of the school should be the preparation of men of the type described as extension agents in a preceding recommendation. They should be practical men with a desire and talent for teaching and leadership among their own people. Such of these men as cannot be employed after graduation as extension agents, can become efficient individual farmers, and should be helped and encouraged by the Government to do so.

The best candidates for this type of training are young men who have originated and developed in rural areas among farmers, and who desire to return to such areas to work after graduation. Their academic preparation for Damien need not be greater than that required for their studies of basic agronomic science and practice, nor should these studies be overburdened with refinements inapplicable in the rural situations in which the students will work after graduation. The establishment of excessively high academic requirements for candidates to Damien leads to a student body composed predominantly of young men of urban origin and associations, to whom farm life and rural conditions tend to be distasteful, and who in consequence do not as a rule carry out the true functions of extension agents in the countryside.

Haiti has little need, at the present stage, of specialized agricultural technicians. In any case, the school at Damien is not in a position to prepare such technicians of a quality comparable with those from better equipped and more highly developed schools elsewhere. The small number of such

New Shallu-type grain sorghum called "chicken corn". Recommended for its grain yield over native petit-mil.

technicians Haiti can use may be obtained by providing scholarships to promising graduates of Damien, for study abroad

If it is found that there are not a sufficient number of students of rural origin with adequate preparatory training for the three-year course at Damien, it is recommended that the course be lengthened to four years by inclusion of a preparatory year of grounding in basic mathematics, natural science, and current affairs.

It is recommended that the curriculum be simplified by reducing the number of subjects, grouping together those which are closely related, and reducing the number of teachers. This would permit teachers to dedicate full time to their work, for which they should be adequately compensated, and release technical workers for full attention to the Technical Services of the Ministry of Agriculture.

It is recommended that in every part of the curriculum emphasis should be on the practical, and that students and teachers should become familiar with the plans of all agricultural development projects under execution, visiting these projects and participating in their work during vacations or as part of their training whenever feasible.

13. *The Mission recommends that the connexion between the Rural Normal School at Damien and the faculty of the Agricultural School be maintained and strengthened*, so as to endow rural teachers with a sympathetic and constructive understanding of rural and agricultural problems. It is recommended that normal students from this school also be made familiar with the plans of all agricultural development projects, and visit these projects to become thoroughly conversant with them, so as to be in a position to give their pupils an intelligent understanding of their relation to the natural resources from which they will eventually have to derive their living.

14. *The Mission recommends that at each agricultural development project there be established a community school of the type now being tried experimentally by the Ministry of Education*, which is designed to provide, in addition to the usual programme of education for children, opportunities for adult education in domestic arts and crafts, and a centre for projects in rural welfare. It is recommended that these schools be expanded to include a course of training in practical agriculture for older boys, with the primary objective of making good farmers, but with provision for preparing students possessing special aptitudes to enter the Agricultural School at Damien, where, after a year of preparatory grounding, they would study for the next three years to become graduate agronomists. In this way the supply of candidates for Damien with an agricultural background would be assured.

It is essential that the teachers in these community schools be adequately paid and that they be provided with attractive conditions of life to encourage them to reside and work permanently in the countryside. Teachers for this type of school can be most appropriately recruited from among the graduates of the Rural Normal School at Damien.

15. *The Mission recommends that the Technical Services of the Ministry of Agriculture be oriented toward the preliminary studies and participation in the execution of comprehensive projects of agricultural development.* The secretariat of the National Resources and Development Board will rely heavily on these Technical Services for information and study of potential projects for agricultural development, as it will on similar services in the other Ministries, which should be oriented toward the same objective. These services must be prepared to present in usable form the best available technical data relevant to proposed projects, such as information on rainfall, the character of soils, stream flow, available materials for construction, the suitability of specific areas for different crops, population, land tenure and use, means of communication and transport, present and estimated potential productivity, and many other kinds of information essential for sound planning. Wherever the Technical Services are not organized to provide this kind of information, or to undertake studies leading to its provision, they should be organized suitably, and in all cases they should be relieved of the burden of non-essential paper work.

With a view to the creation of an Agricultural Statistics Service, for which no adequately trained statistician appears to be available at present in Haiti, a qualified person should be selected and provided with a scholarship for training abroad in relevant techniques and organization.

Likewise, a qualified person should be selected and provided with a scholarship to study the techniques of land-use and land-ownership surveying through the use of aerial photographs.

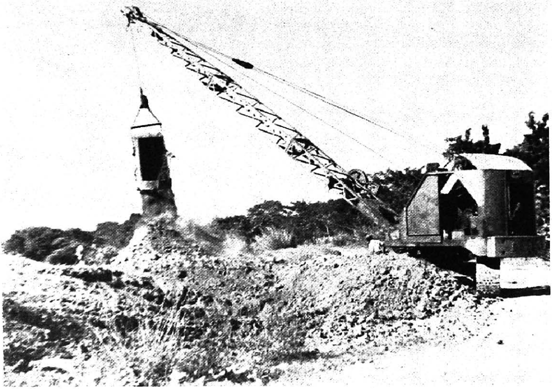
16. *The Mission recommends that the Forestry Service of Haiti be centred on the forest-management project of SHADA in the Forêt des Pins,* where a programme of forest protection, improvement and sustained yield development is being carried out. It is recommended that this project be widened to permit the conduct of adequate research on the growth habits and requirements of Haitian pine, that the forester in charge of the project be enabled to carry on such research through the lightening of his duties as manager of the lumbering operation, and that he be assisted by selected students from the agricultural school at Damien, who would thus acquire training which they could apply in the Pine Forest or elsewhere in Haiti after their graduation. It is recommended that one or more young men be selected from the group thus trained, for further training in forestry, pref-

erably at a forestry centre in the Caribbean area. In this way it will be possible to build up a Forestry Service composed of technicians trained in practice as well as in theory, capable of discharging the great responsibility which a Forestry Service should bear in Haiti.

C. RECOMMENDATIONS ON AGRICULTURAL DEVELOPMENT PROJECTS

17. *The Mission recommends that the present project for irrigation and resettlement of the lower Artibonite plain be carefully studied in all its aspects as a project from which very valuable experience and training can be obtained for future undertakings of a similar nature, even if of lesser size.* The central problem of land use and tenure should be carefully studied before plans for resettlement are made. Government services, such as the Agricultural Extension Service schools, and public health centres, should be provided in strength commensurate with the size and population of the area. During its elaboration the comprehensive plan for the project should be widely discussed in the newspapers, over the radio, and in community meetings, and when completed, it should be used as a textbook in the schools and as a handbook for all workers on the project, so as to secure the necessary co-ordination of effort. Execution of the project should be entrusted to a co-ordinating project authority, which, however, should not displace or attempt to direct the normally established governmental functions in the area. This project authority would be the responsible arm of the Government charged under a charter or directive to develop and carry out the plans for the area. It would administer State lands in the area and perform such other special functions as were specifically assigned to it. It would seek to stimulate and co-ordinate the work of various operating agencies of the Government as required to carry out the programme. It would seek, with the assistance of other governmental agencies, to instruct the people of the area and organize them into communities and associations devoted to the accomplishment of the purposes of the programme. These bodies, as they gained experience and insight, would be given increasing responsibilities for maintenance and other functions, with increasing participation in planning as their knowledge and understanding of the purposes of the project expand.

Suitable permanent living quarters should be provided on or near the project for the project personnel, for agricultural extension workers, teachers, vocational instructors, and public health workers, all of whose salaries should be adjusted to provide an incentive for permanence in the area. These workers should be provided with assistants from the area, who could in turn become teachers and leaders among their neighbours. Adequate transport for the execution of their duties should be provided for such workers.



Opening up irrigation ditch, lower Artibonite. Haitian Department of Agriculture and *Service coopératif interaméricain de production agricole.*

Because of its location in the plain of the Artibonite, far from the foothills of the mountains which provide its supply of water and forest products, this project does not at present include the complementary work of watershed protection and development which has been recommended as an essential part of all projects for agricultural rehabilitation. This must be considered a weakness of the project, which must be corrected as soon as possible by giving high priority to the establishment of projects in the upper reaches of the Artibonite, with the eventual objective of consolidating all the projects of the watershed into a single comprehensive and unified project, which alone can justify and protect the expenditures now about to be made in the lower valley.

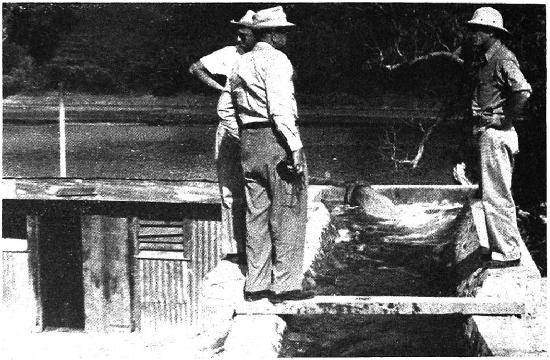
18. *The Mission recommends that in the choice of projects for agricultural development through irrigation, priority be given to existing systems, in which physical improvement and the introduction of efficient management would effect a marked increase in efficiency in the use of water and in production per unit of land.* As in all other agricultural development projects, planning for the improvement of existing irrigation systems should be preceded by a survey of land tenure and land use, not only on the irrigable land, but on the lands of the watershed above that influence the

project. Accurate information concerning the volume of water available at different times of the year should be obtained, and the closest possible estimates should be made of the amounts of water needed for the most appropriate use of the land. With this kind of information at hand, it should be possible to draw up a comprehensive plan for such consolidation or re-arrangement of holdings as may be advisable and such reform and repair of the system as may be necessary, and for a system of water regulation, maintenance service, and amortization which can be accepted by the people of the area after it has been adequately explained to them by agricultural extension agents who have gained their confidence. The provision of adequate health, schooling and vocational education facilities in such irrigation areas, where they do not already exist, would help to round out the project and create the community spirit necessary for its continued success.

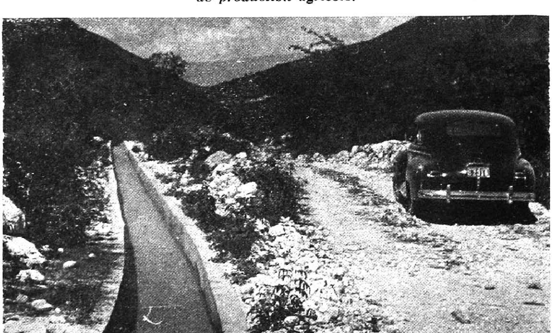
Typical areas in which this kind of development is recommended include the area of Fond Parisien, the irrigation system of St. Raphael, that of Cayes-Jacmel, and many others.

19. *The Mission recommends that attention be given to increasing the crop area by irrigation from wells.* Preliminary investigation indicates that additional ground-water possibilities exist in the Cul-de-Sac plain, on the plain of Léogâne, on the plain of Cayes, on the Gonaïves plain, on the North Plain, and elsewhere. In the study of development projects of this type, a preliminary survey of the land-use and land-tenure situation is essential in order to plan for rational resettlement. Of course, the soils and the quality of water expected must be carefully studied, and provision must be made for the most careful recording of water level in order to detect signs of draw-down which would be prejudicial to contiguous existing or future wells. The project area should be so defined, if possible, as to bring under project control the adjacent hillsides which would serve as the source of fuel wood and charcoal for the new community, and which might provide opportunities for carefully controlled grazing of livestock.

20. *The Mission recommends that, among other types of projects for agricultural development, high priority be given to the establishment of coffee exclusively on the higher slopes, where the quality of the product is best.* As in all other cases, the study of projects of this type should be preceded by a survey of the situation with regard to land use and tenure. When a suitable area is found to be State property, it should be declared a national reservation, and its inhabitants should be permitted to remain on the land only on condition of their strict observance of regulations made for the use of the land in the reservation. Carefully limited production of fuel wood and charcoal would be permitted, as well as other forest occupa-



Pump house and head of canal used to irrigate rice in lower Artibonite—work of Haitian Department of Agriculture and *Service coopératif interaméricain de production agricole.*



Fond Parisien: irrigation structure bringing water from springs through miles of dry river bed. Water is used in the upper Cul-de-Sac Plain for production of fruits and vegetables. Any future development of this dry valley area should assure maintenance of this water supply to the irrigated areas below.

tions, but the principal use of the area would be for the establishment and production of coffee. Individual occupants of the land could not be expected to finance such a long-term undertaking, but the Government, while paying wages to the inhabitants for part of their labour, could permit them, through contributions of additional unpaid labour, to pay rent for and acquire leasehold title to portions of the land. In addition, persons presently engaged in production of annual crops in the area, but who would be debarred from this by the project plan, could be trained to act as forest wardens and receive a certain amount of cash compensation for this work until the coffee came into production and they became leaseholders of portions of the plantations. The Government would be reimbursed for its expenditures in the area through the collection of cash rentals from leaseholders as soon as the coffee began to produce.

The experience of SHADA in the introduction of coffee under existing mixed-hardwood stands would be valuable in this connexion; but in other cases, where the introduction of coffee must be preceded by afforestation with shade trees, the utilization of technical advice from tropical foresters of the Caribbean is recommended. This is particularly applicable to the choice of shade tree species which are valuable for their wood or fruit as well as for their shade, and to the use of correct techniques of afforestation

The area should be defined, whenever possible, in such a way as to bring the plantations into a permanently workable relationship with neighbouring areas which can provide an adequate supply of foodstuffs to the coffee planters. Thus, a coffee area could advantageously be established in connexion with the development of a flood control or irrigation area in the same watershed.

In order to ensure proper care of the young coffee bushes, and proper care of the plantation and its product when it matures, specially trained extension agents should be permanently located in these areas, and provision should be made in the original plans for adequate installations to process the harvested product and guarantee the delivery of washed coffee of high quality.

21. *The Mission recommends that a technique similar to that recommended for coffee be used to establish plantations of cacao* on suitable lowland slopes. Cacao of excellent quality has been produced in Haiti in the past, and can be produced again. Because of the abandonment of its cacao plantations and disuse of the art of properly processing the beans, Haiti has failed to take full advantage of the current high price for cacao on the world market. While the permanence of high prices for cacao cannot be guaranteed, a reasonable Government expenditure for the establishment of cacao plantations on lowland slopes unsuited for other use, should be

Testing coffee for quality and aroma, Haitian Coffee Board, one of the functions of which is to improve standards of Haitian coffee for export. Sample of each lot of coffee offered is roasted and classified according to taste and aroma. The Board seeks to prevent the export of damaged and low quality coffee.

considered a good long-term investment, and one which would serve to protect such slopes from further damage due to soil erosion. (Additional recommendations are made in appendix I.A., section (vi).)

22. *The Mission recommends that careful attention be given to the possibility of operating simple reforestation projects in a way similar to that recommended for the establishment of coffee and cacao plantations.* In the case of reforestation projects without coffee, which can be remunerative as forests only after many years, areas should be chosen in such a way as to include lands which can safely support a limited number of persons engaged in carefully controlled grazing and cropping, and the limited production of fuel wood and charcoal, whose income can be supplemented by compensation from the Government for their work as forest wardens until such time as they can find sufficient work as lumbermen in a programme for sustained-yield management of the mature forest.

Areas chosen for this kind of project should be those highland slopes

unsuited for production of coffee, and those lowland slopes unsuited for cacao or other lowland tree crops. They should be areas of a relatively low present density of population. The return on the Government's investment, which would be limited to the initial costs of tree planting and protection and the subsequent payment of a small wage to the inhabitants who act as forest wardens, would eventually come from the sale of lumber.

Among the areas suited for this kind of development are the semi-arid hilly or flat areas incapable of being irrigated, but which nevertheless have enough moisture to support certain types of trees, such as the dry areas of the Cul-de-Sac plain and its surrounding hills, and similar country near Gonaïves, with the exception of areas irrigable from future wells. The specific advice of tropical foresters should be sought as to the selection of species, but the planting of divi-divi to produce a tanning agent, and of benzolive to provide an excellent edible oil, are suggested as possible examples.

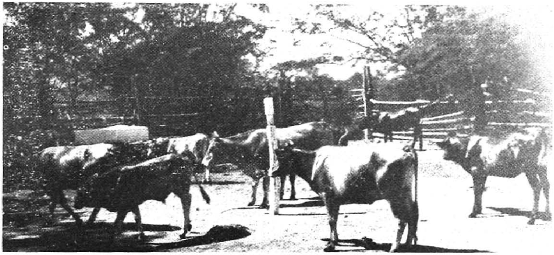
Although the climate, and more especially the soils of Haiti are not as a rule ideal for production of cinchona bark, the tree can be grown in certain areas. The population's great need for a cheap anti-malarial would justify consideration of moderate plantings of cinchona in such areas, with a view to producing bark which could be very cheaply processed to prepare totaquina, a crude extract of the total alkaloids found to be effective and acceptable as a substitute for quinine therapy. In the choice of areas for cinchona, attention should be directed toward intermediate elevations in the Département du Nord and the Southern Peninsula, where acidic soils with adequate rainfall may be found.

23. The references in this report to reforestation by planting should not be taken to exclude projects for reforestation through spontaneous regeneration. *The Mission recommends that,* wherever the direct planting of superior tree species would prove impracticable, too expensive, or risky, for lack of certain knowledge of the behaviour of such species in artificial stands, *spontaneously afforestable areas be separated and protected from damage due to grazing, woodcutting, burning, or cropping, in order to permit the spontaneous re-establishment of natural tree cover.* This is by far the cheapest and quickest way to establish permanent tree cover as a protection against excessive run-off and erosion. The advice of a tropical forester with experience in this matter should be sought in every such project, but attention is called to the favourable indications for such projects in the steep ravines of the Central Plateau, where either pine or hardwood stands appear to be regenerating spontaneously wherever they have had an opportunity. When such stands have reached maturity, they can under careful management supply fuel wood and lumber for the

inhabitants of the vicinity who grow crops or manage livestock on the flatter lands.

24. In connexion with projects for reforestation, attention is called to the need for straight poles for housebuilding and other construction. Peasant dwellings and other rural structures are generally built with uprights and beams made of hardwood poles, which are almost without exception crooked, producing unsafe, impermanent, and unsightly structures. *The Mission recommends that attention be given to making available, especially for structures in agricultural development projects, a sufficient quantity of straight serviceable poles.* Such poles can be quickly grown in artificial stands of Casuarina, eucalyptus, Caribbean pine, teak, bamboo and other trees which grow well in Haiti. They are also obtainable from culling and thinning operations in mature stands such as those of the Pine Forest, and this source of construction material should not be neglected. The sale of poles obtained by thinning new stands on governmental reforestation projects, would provide an early return on the otherwise long-term investment represented by such projects, whose only other economic return would be from the sale of sawn lumber many years later.

25. *The Mission recommends that in appropriate areas, agricultural development projects be centred on improved methods of livestock and pasture management.* One area in which this kind of project should be developed is the Central Plateau, where a very sharp dry season and the lack of opportunities for irrigation preclude the successful production of most annual crops, and where uncontrolled grazing very quickly causes spectacular erosion of the deep, friable soil. The improved pasture management practices which have been initiated by the Government in this area should be greatly extended on State lands and education of the inhabitants to improve their management of livestock should be carried out by specially-trained extension agents having the livestock station at Papaye, near Hinche as their base. Before the operation of this project is undertaken, a survey of the ownership and use of the land should be made, by using the maps and aerial photographs available for the area, in conjunction with community surveys conducted by persons trained in this technique. A settlement of titles should then be made, to provide security to the inhabitants and to protect the land. State land should be offered to the inhabitants, wherever appropriate, under a leasehold or other conditional form of tenure, in order to ensure appropriate use of the land. Areas undergoing erosion, or susceptible to erosion if grazed at all, should be fenced off for the application of reclamation measures, such as tree planting, planting to shrubs or erosion-controlling grasses, or spontaneous regeneration of cover. Wherever possible and useful, provision should be made for im-



Heart of breeding herd, Livestock Experiment Station, Hinche. Plateau Central area around Hinche offers considerable possibilities for expansion of dairy production and establishment of creameries for processing dairy products.

pounding rainwater or water from wells with windmill pumps, for the use of livestock in the dry season. At suitable centres, trench silos should be made and filled with fodder from sorghums, Uba cane, or other fodder plants appropriate for the area, as a demonstration to the inhabitants, who should participate in the work and thus learn the new techniques. The inhabitants should be taught to make hay at the right time from "*Madame Michel*" grass, as is presently being done experimentally, but if better grasses can be introduced economically, the technique of this substitution should be taught to the inhabitants.

As the project develops, and suitable foodstuffs and trained personnel become available, a dairy centre should be established, at first with the object of producing butter and cheese, to serve as a pilot plant and training centre.

The livestock station should operate a livestock breeding service for the area, to develop more thrifty beef and dairy types of cattle and goats, and to improve the local swine.

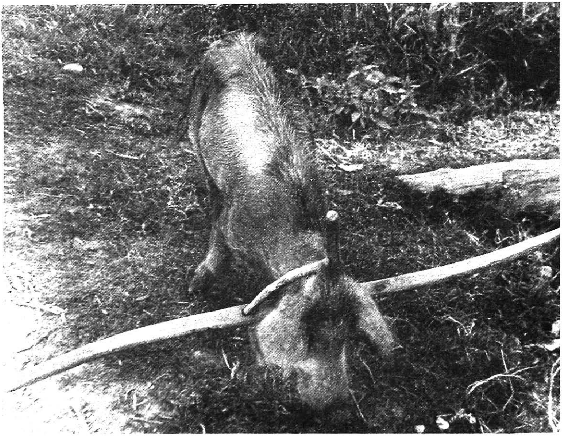
Projects for improvement of pasture and livestock management in other parts of the country should be established on the basis of the experience obtained in the Central Plateau, utilizing its trained personnel.

26. *The Mission recommends that the control of torrential streams be taken as a central activity, around which to develop projects for rural improvement.* A very considerable area of land remains uncultivated in Haiti because of the menace of floods. These floods destroy small supplemental irrigation systems which could serve to increase production considerably, erode stream banks, destroying crops in their upper reaches, and

deposit great quantities of silt in stream beds and irrigation ditches in the agricultural lowlands, producing floods and creating swamps which require drainage.

A comprehensive project of agricultural development can be centred on a programme to utilize and control small streams, such as the Gosseline, which is typical of many others in Haiti. The work would begin with a survey of land use and tenure in the area, and would proceed, after a secure pattern of land tenure had been established, with the organization of co-operative labour groups to construct simple works of flood control and stream-bank protection and maintenance. The Government could make a partial payment of wages to the workers in these groups in the form of simple, nutritious meals served from army-type field kitchens at the site of the work, or, alternatively, could accept the contribution of labour as part payment toward the acquisition of leasehold or other controlled-use title to State lands in the area.

At the same time, rational use of sloping lands in the watershed should be instituted, as indicated elsewhere in these recommendations. Small



Effective yoke to prevent pig going through hedge fences to neighbour's field. Local law gives owner of invaded field right to kill marauding pigs.

supplementary irrigation systems may be laid out by Government irrigation engineers, and constructed under their supervision by co-operative labour. Arrangements for proper maintenance of these systems should be made at this time. An agricultural extension agent should be detailed permanently to the area, and a rural vocational school be set up. As occasion offered, small industries could be developed by providing instructors for the purpose at the project school. As soon as possible a health educator should be assigned to the school, and, in general, the school would serve as a centre to promote rural welfare in the area.

APPENDIX

Notes and Recommendations on Specific Crops

(i) *Cacao*

The cacao tree is a typical tropical plant which prefers a rather hot, humid climate, with evenly distributed rainfall. It cannot withstand drought or an elevation greater than 1,500 feet above sea level. Besides, it is very sensitive to wind, and must, therefore, be shielded by windbreaks. It will not tolerate lack of attention, reacting directly by a decrease in production. The trees when newly planted must be well sheltered by shade trees of another kind, such as mango, breadfruit, rubber, banana, inga, or others.

Haiti is one of the oldest cacao-growing countries in the world. The variety was originally the Criollo type, which is one of the best-flavoured, but areas with pure stands of Criollo are now rare, since, when Criollo trees die, Forastero trees must be substituted for them. The result is, therefore, a mixed plantation.

While the Caribbean area has greatly increased its cacao production and export since the beginning of this century and now provides about 10 per cent of the world supply, Haiti has not shared significantly in this production, as the curve of export shows:

Cacao exports from Haiti (thousands of tons):

1925	*1929*	*1931*	*1934*	*1936*	*1938*	*1942*	*1946*	*1947*
1.5	1.4	0.8	1.1	1.4	1.8	0.6	1.9	1.8

These figures, which suggest a total production of about 2,000 tons, are far lower than those of a century ago, when Haiti was famous in the European markets for its cacao. The causes for this decline are similar to those responsible for the decline in coffee production. The instability of prices, and their fall during the depression of the 1930's, the rise in price of foodstuffs in latter years, insecurity as to tenure of land and consequent neglect of cacao and shade trees, praedial larceny, and the defects of the purchasing system, have combined to discourage peasant producers of cacao. The art of fermenting and drying the beans to give a high-quality product has fallen into disuse. Consequently the quality and reputation of Haitian cacao have declined.

Haiti's position as an exporter of cacao can be regained if a special effort, similar to that recommended for coffee, is made by the Government.

Secure tenure of the land must be guaranteed to the holders of lowland slopes suited to the production of cacao, on condition that the land be used in a manner which will protect the soil and produce cacao of high-quality exclusively. Specially-trained extension agents should be detailed to cacao-producing areas, to teach and demonstrate proper methods of propagation, shading, pruning, disease control, harvesting, and processing. The special knowledge of cacao production now being acquired by the two Haitian trainees at the Inter-American Institute of Agricultural Sciences in Costa Rica should be utilized for this purpose. Simple devices for fermentation and drying, such as those formerly distributed by the Ministry of Agriculture of Haiti should again be provided. Cacao should be bought, if necessary, directly by the Government, according to a scale of prices which provides an incentive for high quality.

In the typical cacao regions, such as Jérémie, Dame-Marie, Anse d'Hainault, Cayes, and Jacmel, cacao, which is especially suited to the lower altitude of these areas, should gradually be made to replace the coffee which is now being grown there, with consequent loss of quality. At least 1,000 hectares can be safely planted to cacao in the areas of Limbé, Port-Margot, Bayeux and Valière, where the climate is particularly favourable.

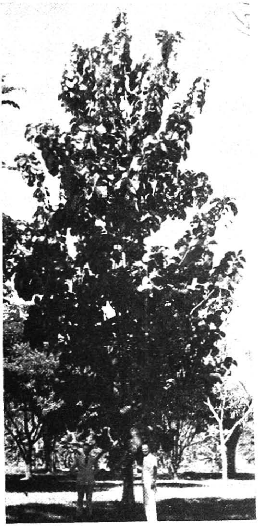
While the present world price for cacao will undoubtedly decline in future years as new areas in several parts of the world come into production, or as areas now afflicted by the Witch's Broom disease return to production, cacao is a good long-term investment for Haiti, and in addition would serve to protect the vulnerable lowland slopes of the country. Attention should be given to providing a greater domestic outlet for cacao and its products, through creation of a small Haitian candy and chocolate industry. The experience of modest *entrepreneurs* in this field in other small countries, such as Costa Rica, is encouraging, and should be studied by the Haitian agronomists who are now in that country.

(ii) *Coconut and oil palm*

Coconut cultivation in Haiti, because of climate and soil conditions, is restricted to certain areas of the coastal region: Cayes, Jacmel, Dame-Marie, Anse-d'Hainault, Jérémie, Miragoâne, Léogâne, Port-au-Prince, and the Département du Nord. It is estimated that a total of about 3,000 to 6,000 hectares (1,500,000 trees) are planted in scattered patches. In recent years large numbers of coconut trees have been destroyed by a variety of diseases.

Haiti has a considerable shortage of both edible and industrial oils. Coconut oil is valuable in both respects, and the number of trees planted should be increased as rapidly as possible. Disease-resistant varieties should be obtained, after consultation with experiment stations in coconut-producing areas, particularly the Caribbean, and peasants should be taught the means and methods of controlling pests and diseases, of preparing the product for marketing, and of utilizing the by-products, such as the fibre, for mats, brushes, and other household articles.

The cultivation of African oil palm is even more limited in Haiti than that of coconut, but there are many lowland areas suited for this palm,



Teak tree at Damien, Teak grows well in many parts of Haiti.

Young rubber trees intercropped with bananas and malanga (taro).

where rainfall is sufficient and the soils are permeable and deep. The palm can be planted either in sizeable plantations of 2,000 acres or more, under corporation management, or in plantations of 200 acres or so under co-operative or owner-management. The possibility of inter-cropping with manioc, banana, or pineapple, for example, may be considered, but on sloping land careful attention must be paid to soil erosion control.

In the plains of Cayes there are considerable unused land areas which appear to be suitable for African oil palm, possibly with the aid of drainage. Other areas, where ground water can be made available by pumping, such as parts of the Cul-de-Sac plain, are also indicated. Rather than for export, production should be undertaken for local use as edible oil and as a raw material for soap and candle manufacture which would make possible the expansion of these industries in Haiti.

Alternatively, an additional source of edible oil for home consumption can be procured by small plantings of African oil palm on individual holdings in suitable areas. A few oil palm trees can provide a peasant with a family supply of oil, which can be extracted by simple boiling and skimming, without special equipment. An effort should be made through extension agents assigned to agricultural development projects to stimulate the individual production and use of palm oil, which is nutritious and can also be used for home or community production of soap.

(iii) *Rice*

The production of rice, an important tropical food-grain, can be very greatly increased in Haiti. Present methods of production, based largely on the use of natural marshes, the inundation of which cannot be controlled, are in general inefficient. Yields are very low, and there is considerable loss during harvesting. The Ministry of Agriculture maintains a rice station near Dessalines, that has been successful in introducing improved varieties, but the most promising feature of the rice situation in Haiti is the success achieved near Bois-Dehors, a SCIPA[1] project area in the Artibonite, where, in spite of excessively heavy soils, yields much in excess of those obtained by peasant methods have resulted from careful preparation of the land by machinery, and careful regulation of paddy water. Indeed, much of the economic justification of the present project for irrigation development in the lower Artibonite rests on the good prospects for greatly increasing rice production in that area.

The Mission recommends that close attention be paid to the pilot work being done at Bois-Dehors, and that advantage be taken of this experience in planning agricultural development projects based on rice production in other areas, such as large parts of the North Plain, which appear to be well suited for this crop.

It should be remembered that inundated rice cultivation may create or intensify a malaria problem, and close watch should be kept in new rice areas for any rise in the incidence of malaria, so that proper steps for control may be taken in time. On the other hand, as is pointed out in part II, chapter II of this report, the inundation method of rice production can provide opportunities for fish culture. The additional crop

[1] *Service coopératif interaméricain de production agricole.*

of fish increases the farmer's income and at the same time provides him with a valuable supplement to a diet which is too often composed largely of starchy foods, such as rice itself.

(iv) *Rubber*

Because of the disappearance of the supply of rubber from the south-eastern Asiatic area during the Second World War, Hevea rubber plantations were established by SHADA[1] in Haiti, even though the conditions of soil and climate were far from ideal. At Bayeux, in the Département du Nord, about 1,600 acres of flat land and some 300 acres of steep slopes were planted in rubber. At Bourdon, in the Sources Chaudes section of the Département du Sud, about 2,250 acres of land were prepared, but only 250 were planted. While at Sources Chaudes proper 1,970 acres were planted in rubber, these plantations are suffering from neglect. If properly maintained, however, parts of them will come into production in about two years.

The Bayeux plantations represent an investment which can produce an economic return. Since rubber in this area competes with food production. and the activities of the neighbouring inhabitants represent a threat to the success of the rubber plantation, it is recommended that a certain number of the inhabitants be permitted to grow an intercrop, such as maize or beans, between the rows of young rubber trees. As compensation the holder of a permit to intercrop should be obliged to keep the area between the rows free of weeds and grass, and any damage done to the rubber trees would cause withdrawal of the permit to intercrop. Under good management this would provide maintenance services for the plantation, and food crops for the inhabitants. Another solution would be the formation of a co-operative among the peasants, who would maintain the plantation and later tap and sell the rubber to SHADA. Both of these systems would provide the peasants with an incentive for good upkeep of the plantation.

It is recommended that the steep slopes be returned to peasant use under leasehold or other conditional titles, which would assure proper utilization of the land. The cultivation of cacao is recommended, but other crops, under careful control, would be permissible.

In the Département du Sud a few hundred acres are estimated to be worth maintaining. Some of the gentler slopes should be replanted with material from Bourdon and Sources Chaudes, where there are several hundred thousand suitable nursery plants. The conditions of soil and climate are more favourable in this area than at Bayeux.

In this section, where it would otherwise be difficult to obtain a supply of labour for tapping, the *de moitié* or share-crop system is recommended as a pattern of management. The rubber area should be divided into plots of about 300 trees each, and until the time for tapping a small compensation should be given to the holder of a plot for his labour in taking care of it. Intercropping should be allowed only in the young plantations or in replanted areas.

[1] *Société haïtiano-américaine de développement agricole.*

When the proper time comes instruction in tapping methods can be given by workers from the United States Department of Agriculture's Rubber Experiment Station at Marfranc. The latex would be brought to collecting stations, and payment would be made on a *de moitié* basis.

The area which is not kept for the production of rubber should be returned to the inhabitants under conditional title. Some of the steep slopes which have been planted to rubber are unsuited to any use other than the careful production of coffee under shade-trees. The gentler slopes can be used for resettlement under conditions which guarantee protection of the soil.

At Bayeux, and especially at Franklin, the plantation buildings are still in good condition. Without great cost small rubber factories could be established at these places.

SHADA's investment of about $700,000 in its rubber plantations warrants an effort to make good on this capitalization. Of the 1,500 acres which it is judged are worth maintaining, at least 60 per cent will come into production in two years. There are already many trees with a diameter of six inches.

In the absence of information concerning the proportion of seedlings and budded plants, it is not exaggerated to assume a yield of about 650 pounds of rubber per acre. Under a tapping system which always leaves one-third of the trees resting, production in 1950-51 could be of the order of 400,000 pounds, and it could surpass 1,000,000 pounds in the following years. If the price of rubber were to drop to $0.20 per pound, the return in 1950-51 would be about $80,000.

If one-third of the trees are resting, and the remainder are tapped every other day, 120 tappers would be required. A rough calculation of the cost of operation of a rubber factory for the first year would be the following:

Cost of tapping, at $0.90 per day:

120 x 320 x 0.9	$34,560
ex factory expenditure	16,000
Amortization of new equipment, 10%	5,000
Amortization of capital (3% of $700,000)	21,000
Transport, upkeep, etc.	3,440
	$80,000

This calculation does not include charges for management, housing and hospitalization of labour, and like charges, but does contain a debt service charge which is probably unnecessary in this case, where the alternative is practically complete loss of the capital investment. Furthermore, the calculation is based on a minimum estimate of production, which in the second year could be some 800,000 pounds, and in the third, over 1,000,000. The calculation has been made to show that proper maintenance and utilization of the rubber plantations are definitely worthwhile.

As a crop for small landowners rubber has definite possibilities in Haiti. Experiments made by the United States Department of Agriculture experiment station at Marfranc show that manioc, malanga, coffee, and other plants can be successfully grown as an intercrop with rubber. Similar work

at stations in other countries has shown that maize and other food crops can be grown profitably between the rows of young rubber trees and can provide income or a subsistence until the rubber can be tapped. Some 55,000 seedlings and budded rubber plants have been distributed among the farm population of the Jérémie and Franklin areas by the United States Department of Agriculture experiment station. Since the cost of maintaining rubber trees, once they are planted, is small, and since rubber as a permanent cover fits in well with a programme for control of erosion, it is recommended that rubber planting be encouraged as the central activity in suitable agricultural development areas.

(v) *Tobacco*

Haiti's tobacco production can be very greatly improved. The climate in various parts of the country is suitable for growing cigarette tobacco, such as Virginia, Burley, and even Turkish varieties. There are, besides, areas where a good cigar tobacco can be grown.

No reliable statistics exist concerning Haitian tobacco production, which is estimated to be between 500,000 and 3,000,000 pounds annually. The planted areas are mostly very small, varying from one-half acre to several hectares. There is no uniformity as to planting distance, or as to leaf type. Diseases and pests affect the plantings, but little systematic control is practised. The product is very crudely picked and dried, and frequently not fermented at all. The quality, as a consequence, is very poor.

Only systematic development of the tobacco industry under the central direction of a tobacco expert can be expected to bring about a substantial improvement of Haiti's tobacco supply. Haiti currently imports a very considerable quantity of tobacco products, and an increase of Haitian tobacco production should be directed principally toward local consumption. However, in certain areas it is possible in the course of time to develop for export a high-grade tobacco for cigar-filler and even for wrapper. There is also the possibility of developing a fine cigarette leaf.

Since small individual plantings would fail under present circumstances to provide the essential uniformity of leaf, it is recommended that tobacco culture be taken up as a co-operative enterprise within agricultural development projects which can provide adequate technical supervision.

There should be a central nursery to provide the farmers with seedlings. This nursery should be established on the best land, with a sufficient supply of water. The seed-beds require to be carefully controlled for disease and protected from any other damage.

Once the seed-bed is properly prepared under central direction each farmer should be required to plant his portion according to instructions issued by the management, in a planting scheme designed to produce a steady harvest over a period of time. Payment of a daily wage against each farmer's share of the crop should be made, with premium incentives for the best care of the crop. For the building of the barns and other necessary structures, each farmer should be expected to contribute his labour or its equivalent in cash. Although harvesting should be done according to a central schedule, each farmer might be permitted, if convenient, to handle his own crop thereafter, and would be entitled to sufficient space for this

Rural house surrounded by bananas, breadfruit and palms. Note raised platform for starting plants such as tobacco and other crops for transplanting to the field.

purpose in the drying-sheds. After the sale of the tobacco. and deduction of charges for advances and central services, each farmer would receive his share of the remainder of the proceeds.

Alternatively, the centralized technical direction which is essential for production of good tobacco can be obtained through an ordinary plantation operation, in which labour for the entire season is contracted for at a predetermined rate, with a premium system to provide an incentive for good individual efforts.

Haiti has sufficient good tobacco areas to produce easily 4,500,000 pounds per year. The approximate areas which could be planted in the different sections are:

	Acres
Jérémie, Débarras, Corail	600
Cavaillon, Aquin, Côtes de fer	1,000
Jacmel, Bainet, Bas Marbial	1,000
Petit Goâve, Grand Goâve	500
Port-au-Prince	400
Arcahaie	200
Hinche, St. Michel, St. Raphael	4,000
Ouanaminthe, Terrier Rouge, Trou	3,000
Port-de-Paix to Cabaret	200
Artibonite	1,000
St. Marc, Mont Rouis	1,000

In the Département du Nord trials are recommended of Cuba. Sumatra, and Puerto Rico types; near Port-de-Paix, Kentucky, Burley, Virginia, and Maryland; in the Artibonite, Burley, Kentucky, Puerto Rico and Sumatra. A trial should be given to Turkish tobacco in the area of St. Marc and Mont Rouis. In the region of Port-au-Prince and Léogâne, Kentucky and Puerto Rico types should be tried, and in the South, Virginia, Burley and Maryland.

It is further recommended that trials be made with *nicotiana rustica*, a close relative of the common tobacco. The nicotine yield of this type is 5 or 10 per cent, which justifies its cultivation for the production of insecticides. The best areas for this would be in the Central Plateau, near St. Michel, and in the plain of Cayes, where distilleries of essential oils are already in operation.

(vi) *Cotton and Cotton Seed*

The cotton grown in Haiti is a perennial type, potentially producing a good quality fibre. In the past the cotton has been grown in small patches by the peasants with a minimum of care. The crop has been carelessly planted and given but little cultivation, practically no attempt being made to control diseases or insect pests; it is ultimately harvested in small lots for sale to exporters. The crop has not been of sufficient significance to the peasant to cause him to pay much attention to either its production, harvest, or sale.

Cotton plants are subject to attacks by various insect pests and plant diseases. The very nature of the varieties and the diverse conditions under

which they are grown involve a long season during which infestation may occur, and make the elimination and control of diseases and insect pests extremely difficult.

A drop in production from over 6,000 metric tons per year in the early 1930's to rather less than 3,000 tons in the 1940's has taken place under the cumulative impact of the damages from insects and plant diseases, the hazards of which have caused plantings to be abandoned.

Cotton production in Haiti can be increased very greatly by the use of better varieties of the present types grown there, by proper tillage methods and planting in concentrated areas large enough to permit effective control of insect pests, or by the introduction of improved strains of annual varieties of cotton such as the acala, rowden, coco, and perhaps some of the delta cottons. These varieties should be planted in rows and be carefully cultivated and dusted for the control of the boll weevil during the flowering and fruiting season. Planted in the appropriate time of year to take advantage of the moist season for the initial growth periods, they will mature satisfactorily during the dry season. The short flowering and fruiting season will render them less susceptible to insect pests and diseases and enable the farmer to keep such troubles under control. Where these cotton varieties are grown any campaign to control boll weevil and other pests would require the elimination of wild cotton from the area. Community co-operation is necessary for effective execution of these various control measures.

As the production of cotton in the past was for export, its value was discounted by the cost of getting it to overseas markets. With the development of the spinning industry in Haiti, it is quite probable that the entire cotton crop will be consumed locally, and hence find a steady outlet on the home market instead of the more capricious export outlets on which it has so far been dependent for its sale. In consequence the price of raw cotton is likely to be enhanced on an average and become more stable than in the past, thus rendering the cultivation of cotton more profitable to the peasant.

In connexion with the development of irrigation through diversions from streams or pumping from underground waters, in the Artibonite as well as in the dry plains, consideration should be given to production on a part of the irrigated acreage of cotton as a cash crop for domestic use. In order to render this production efficient the irrigation should be so laid out as to permit concentration of the cotton acreage into continuous fields allowing modern methods of planting, cultivation, and insect control to be used. Appropriate types of cotton can be easily secured for testing at the Agricultural Experiment Station with a view to the selection of the proper varieties to be used in the different regions of Haiti.

The right varieties of cotton may be expected to do well under irrigation in Haiti, and more especially in the Lower Artibonite, the Fond Parisien, and other areas that can be readily irrigated. In certain areas which are dry during the greater part of the year, e.g., the Plateau Central, annual cotton can probably be grown quite successfully also without irrigation if the planting is made in the short, wet season, while flowering and fruiting extend into the dry period of the year.

In order to avoid natural crossing when introducing annual varieties of cotton, not more than one variety should be planted in one and the same community, and where community gins are used care should be taken (by thorough cleaning between ginning of different varieties) to avoid mixtures of the seed that may be used for planting.

The cotton seed is crushed for oil for domestic consumption, while most if not all of the oil cake is exported. The latter product would be of more value to Haiti if it were used instead to feed local dairy cattle. Livestock are at present not well fed for efficient milk production. Oil cake used to supplement the rations would help to increase milk production, make dairying more profitable, and stimulate the growth of dairy herds essential for improved nutrition in Haiti.

Ground cotton seed is an excellent fertilizer for cane, corn, and cotton, but the price it commands as a cattle feed now prevents its direct use for fertilizer purposes. When fed to local cattle it is indirectly returned in some part to the land as fertilizer in the form of barnyard manure.

(vii) *Sugar-Cane*

It is not recommended that the area under sugar-cane be increased, on the one hand because of the need for agricultural land for food production, and on the other, because of the possibility of a decreased effective demand for sugar in the world market in coming years. However, better advantage should be taken of the land currently under sugar-cane, by increasing the yield per acre. Yields can be increased through better use of irrigation water, through the use of fertilizers, and by more widespread use of improved varieties of cane. The objective of this increase would be the full utilization of the excellent processing facilities already established in Haiti, which are not now being used to full capacity. This is intended to include the manufacture of high-grade rum, which offers promise of becoming a valuable article of export if a consistent effort is made to establish a preference for this type of rum, particularly in the European and Latin-American markets.

(viii) *Bananas*

It is recommended that the production of bananas be increased by orderly plantings under adequate technical supervision and disease control in agricultural development project areas. Bananas of good quality have been produced in Haiti for years under centralized plantation management and careful control of diseases. During the recent war independent exporters developed a new outlet in the United States for bananas produced on individual small peasant holdings, but the production of bananas in isolated individual holdings where spraying is difficult and where transport exposes the fruit to damage has not produced fruit of uniformly high quality, with the result that both producers and exporters have been disappointed.

(ix) *Fruit Trees*

Haiti has an admirable climate for most tropical fruits, yet the list of fruits commonly consumed is short, and the quality is often poor. Apart from the possibilities of export, which need to be studied separately for each

Excellent sugar cane near old French factory in vicinity of Cabaret. Old French mill is visible at the end of the road.

Banana plantings in area seriously infected with Sigatoka disease. Only the larger plantations spray to control disease.

fruit, local consumption of fruit can be greatly increased with advantage to the nutrition of the people. A much better supply of fruit is essential as an attraction to tourists, who are now disappointed by the inferior quality and lack of variety of the fruit available at different seasons in the country. The production of high-quality fruit-tree seedlings and budded or grafted plants should be given high priority by the Ministry of Agriculture, especially for planting on areas of agricultural development. Extension agents should not only stimulate peasants to plant new trees, but also to take care of those they already have. A large majority of the mango and avocado trees in peasant yards are overgrown, unthrifty, and diseased, and keep the light away from too large an area where other plants should be growing. Papayas, bananas, and citrus fruit, with the exception of lemons which are grown for essential oil, are all neglected, as are also pineapples.

In addition to these established species, attention should be given to the introduction of new species of tropical fruit. The mangosteen, a delicious fruit of southeast Asia, can be grown in the Caribbean, but, since it has not yet been produced in quantity in that area, might be a fruit for which Haiti could become distinguished. The same may be said of the Japanese persimmon, the pomelo, and several others.

(x) *Bamboo*

Haiti being a tropical country with a wide range of elevation and rainfall, it is almost certain that some at least of the very large number of utilizable species of bamboo will flourish there.

Not only does the bamboo provide a quick-growing cover for vulnerable soils, but it is also one of the most generally useful plants known to man. Its uses are indeed almost endless and range from construction material (roofing, walls, poles, rafters and even floors) to agricultural implements (sieves, winnowing fans, containers, etc.), and domestic utensils (mats, water-pots, baskets, etc.). The sprouts of some species make a palatable vegetable and the leaves can serve as forage. It has many potential industrial uses as a source of cellulose and paper pulp. At least one species is said to produce a paper comparable to esparto grass paper.

Extensive experiments in the adaptation and use of bamboo in the Caribbean have been carried on at the Mayaguez Agricultural Experiment Station in Puerto Rico. Some thirty species are now established that seem to grow well in that area. Industries have also been developed there utilizing bamboo in the manufacture of furniture, fishing rods, picture frames, lamps, etc., and in construction. It would be possible for technicians to secure from this station information on the adapted varieties, as well as divisions of bamboo varieties suitable for initial work in Haiti. In southern Asia bamboo is generally used for many additional purposes, and advice of forest economic botanists from this area may be sought in making further use of bamboo in Haiti.

Locally built boats used in fishing and transport are made of heavy rough-hewn timbers.

CHAPTER II

Fisheries

In the examination of the Haitian fisheries situation in relation to the general problem of economic development of the country, three principal questions have been borne in mind, namely: What is the need of fisheries products in Haiti? What is the present catch and how much does it fall short of the needs? How and to what extent can production be best increased to eliminate the deficit? In answering these questions the previous experience gained in the Caribbean area by the fisheries expert of the Mission has been drawn upon. Sampling techniques worked out under controlled conditions in Jamaica have been used in making estimates, and account has been taken of the several previous investigations bearing on Haitian fisheries which have been published in the course of the past twenty years. As these sources (specified in the bibliographic note given as appendix III to the present chapter) are all fairly readily available, it has been thought superfluous to burden the present survey with repetition of the information recorded. Reference to this material is given here only where necessary for the argument, for purposes of comparison, or where observations are made which disagree with former conclusions.

1. Condition of the Fishing Trade

Fishermen

Audant and Hulsizer (1943) record about 3,000 men engaged in the *marine fisheries*. We believe their present number to be approximately 4,000, but of these only about 500 spend all their time at fishing. The rest engage to a greater or less extent in other occupations, agriculture and boat-loading competing seriously for their labour. As a rough estimate, we would place the number of man-days of marine fishing per year at between 250,000 and 300,000.

In *fresh and inland waters* there are practically no full-time fishermen, but a large number of men spend a few days on fishing. As a very rough approximation we may say that about 10,000 man-days of fishing in these waters is involved.

Equipment

In the marine fishery a great variety of equipment is or has been used. The list includes almost every type known in the peasant fisheries of the Caribbean area. (A notable exception is the fish weir and pound-net type of

operation.) However, much of the equipment is badly constructed and maintained, and equipment designed for one kind of fishing is made and used for a different and often unsuitable purpose. Some types of equipment, for instance the trammel net, which could be put to extended and profitable use, are employed only in very confined localities. Preservation of the nets, when attempted at all, is performed in a very crude manner.

Boats

There do not appear to be any power boats at present employed in the fisheries. The larger boats use sail and oars and the smaller ones oars and paddles—in shallow water they are often "punted" along.

The larger boats range from a maximum size of about three tons down to about one ton. They are all locally made from local hard wood. While the standard of construction in and around Port-au-Prince is not high, farther out, particularly at Grande Saline and on the north coast, the workmanship is quite good. The frames take strength from the use of natural knees and elbows, but the heavy planking gives undesirable weight and stiffness to the vessels. The rig of the sails, while satisfactory for running with the wind, is unhandy and not very suitable for fishing.[1] The same applies to the general shape of the hull—its square stern and heavy lines are not well designed for fishing purposes. It is much better suited to the purpose for which these vessels were primarily designed—namely, carrying freight. It appears that a much more suitable craft for fishing could be planned, and that the local boat builders have the skill to produce a serviceable vessel from such a design.

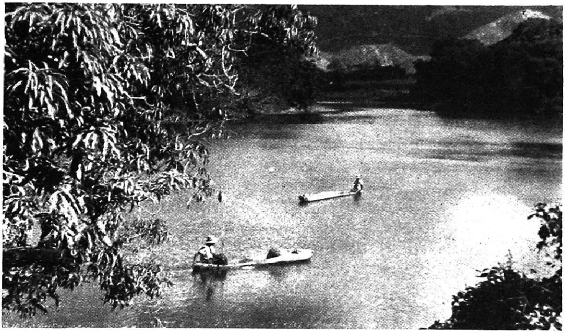
The smaller boats range from lesser editions of the larger ones, through ill-constructed boxes and extremely poorly made dugouts, to rafts of wood or reeds. These are of greatest importance in the most outlying parts of the country, especially on the south coast, and are worthy of mention as, from the nature of the vessels, the operators are forced to acquire a higher degree of boatmanship than is usually found on the larger vessels.

2. Fisheries Laws

The fact that there are as yet no fisheries laws in Haiti would seem an advantage, inasmuch as laws may now be initiated without the drawbacks of such archaic previous rulings as exist in other parts of the Caribbean area.

For the healthy development of fishery in Haiti some measure of control of conditions detrimental to it is obviously required. In undertaking such control the following considerations motivated by past experience gained elsewhere in the area should be borne in mind:

[1] The placing of ballast on the fishing boats is not good, unnecessarily impairing their seaworthiness.



Fishermen trolling in dugout canoes, Rivière de l'Estère.

(1) No law should be enacted which is not capable of effective enforcement in actual practice at an early date;

(2) Considering the educational status of the population immediately concerned, fisheries laws should be few and be kept as simple as possible;

(3) No restrictive regulation should be placed on fishing operations unless there is factual evidence (not merely opinions) to show that it will serve a useful purpose.

Protection against pollution by industrial waste causing destruction of fish deserves close attention on the part of the authorities. In most of the Caribbean this is a very serious problem; once the objectionable practices have taken root, it is extremely difficult to eliminate them. Haiti, it seems, is relatively free from such harmful practices, but they are apparently commencing. From Fort-Liberté to Cap-Haitien there appears to be serious damage to the fish caused by the dumping of sisal wastes into the sea, and the situation threatens to deteriorate further. Pollution of waters may prove a serious deterrent also to the development of pond fisheries.

3. Estimate of the Catch

In the Caribbean area fisheries statistics proper are usually lacking. Given time, assistance and facilities, the number of fishermen, boats, equipment and prices paid for fish can be determined with considerable precision. A close estimate of the number of fishing days can be made, but the total amount of fish caught is usually extremely difficult to determine. Fish are

landed at all hours of the day and night, on numerous beaches, and little of it passes through an established market. The fisherman keeps no records, and his memory is swayed by his recent experiences and mood and the manner in which he is questioned. The catch "statistics" collected by questioning the fishermen can be quite startling, even amusing, especially if the collector of the information is ignorant of the fishery and fishermen.

Methods of evaluating the catch on the basis of information regarding the number of days fished, the amount of equipment used, the price of fish, the cost of replacing equipment, the wages paid for competing work, etc., have been evolved, however, and refined (particularly in Jamaica) to give relatively precise results. In Haiti such precision is impossible, but rough approximations can be made. In this way the following figures have been arrived at for the marine fishery:

(1) The minimum catch cannot be less than 1,300,000 pounds.

(2) The maximum catch is unlikely to be greater than 6,000,000 pounds.

(3) The most probable catch figure is between 3,500,000 and 4,000,000 pounds[1]—calculated in two independent ways.

In addition to this fish caught, there is a considerable amount of Hawksbill turtle taken. Various merchants have estimated the number captured in the island as being of the order of 1,000 to 1,500 turtles a year. We can determine the approximate correctness of this figure from the pre-war exports of turtle shell, which between 1929 and 1940 averaged 863 kgs. per year. This, allowing two pounds of shell per turtle, would be about correct for the capture of 1,000 turtles in the Republic. A thousand turtles would produce between 200,000 and 300,000 pounds of meat. The turtle is still fished for the meat, especially on the north coast, but the shell is now of relatively little value. Though green turtles are relatively common here, they appear to be little fished.

Other products such as shrimp, rock lobster, conch and oysters are used, but the amount taken is not great—perhaps 50,000 to 100,000 pounds all together.

[1] There are previous estimates of the catch with which these figures may be compared. M. Audant (Audant and Hulsizer, 1943) puts the total catch at 2,015,353 pounds, and Fiedler, Lobell and Lucas (1947) give a figure of 2,065,000 pounds, which they state was derived from M. Audant. In Audant's tabulation, which shows the estimated catch by ports, almost half the fishermen and equipment, however, are credited with no catch at all. As far as can be judged from this tabulation, it means that the total of approximately 2,000,000 pounds represents that from only half the fishing effort. The total catch would then be of the order of 4,000,000 pounds.

The fisheries expert of the Mission is inclined from his own experience to favour the estimate based on indirect computation and to place the total as between 3,500,000 and 4,000,000 pounds annually.

The data available to the Mission do not permit of any real estimate of the amount of fish taken from rivers, streams and inland waters. It does not appear to be very great, however, and we can accept M. Audant's estimate of about 250,000 pounds, though this figure is perhaps a little on the high side.

Summing up the above estimates, the annual production of the Haitian fisheries would seem to amount to:

	Pounds
Marine fish	4,000,000
Marine turtles	250,000
Other marine products	75,000
Fresh water turtles, shrimp, etc.	50,000
Fresh water fisheries	250,000
TOTAL	4,625,000

In round figures the total may be put at 4,500,000 pounds per annum.

It is worthy of note that the marine fish catch in Haiti, as compared with that of other Caribbean regions, shows an unusually large percentage

Dr. Ernest F. Thompson, fisheries expert, inspects large tarpon caught by Haitian fisherman in lower Estère River. Inadequate facilities for processing and transport limit fishing industry in this area.

of shallow bottom living forms and estuarine forms and a correspondingly small percentage of deep bottom and pelagic species. It is possible that Haiti is uniquely deficient in these deep water species; but a much more likely explanation, and one supported by all the available evidence, is that these deeper water forms, being harder to catch, are not efficiently exploited. If this explanation is correct, there should be good prospect for augmenting the fishery.

4. Handling, Marketing and Processing

The demand for fresh fish is so great that the catch is sold almost before the boat docks. The middleman (usually a woman) takes the fish at the point of landing and sells it to the retail customers, the majority of whom are buying for their own consumption. The greater part of the fish is sold to the consumers within an hour of the time it comes off the boat. Chiefly because of the position of the landings, but also because of the greater purchasing power centred there, almost all sea food is consumed within a few miles of the coast. In the larger centres of population some sort of small market exists, but the demand is so keen that little fish ever gets there. At no stage is the fish weighed; it is all sold by lot or by string.

The general level of fish prices is quite high. The fishermen receive, on the average, about 20 cents per pound in Port-au-Prince, and down to 10 cents per pound in smaller centres of population. Only on isolated beaches does the average price fall far below 10 cents per pound. The cost to the final consumer is roughly 50 per cent higher than the price received by the fisherman.

For the great majority of the catch the market is so immediate and so keen that the problem of disposal and distribution does not exist. In a few outlying points, and seasonably elsewhere, particularly in some fresh water regions, gluts do occur. These are usually handled by a crude form of light salting, which because of the poor preservation afforded, is not satisfactory.

There does not then appear to be any serious immediate need for additional handling or marketing facilities. In Port-au-Prince this would hold true even if the supply were doubled or trebled. A different situation obtains only in some of the smaller centres of population, where the fisherman has geared his activities to satisfy the local demand and where any marked increase in the supply would upset this balance.

A substantial expansion of Haitian fish production and hence of potential market supplies throughout the country would call for organized measures to improve and amplify the facilities for handling and marketing. The handling would require some form of preservation and transportation. Preservation can take a great variety of forms. Among them may be men-

tioned cold (either ice or mechanical refrigeration), canning, salting (wet and dry), smoking (either alone or with previous salting), fermenting, etc.

While northern markets prefer some form of cold for preservation, this method has limited application in Haiti. Ice production and cold storage space is limited and expensive, even in Port-au-Prince. In few outlying towns could the use of cold be economically applied, unless the amount of fish to be handled was such as to warrant erection of facilities for this purpose. In addition, there is a rather widespread distrust of "cold" fish. The use of cold, moreover, presents great difficulties for distribution to a rural community, especially in Haiti. The great majority of the purchasers would have to dispose of the products immediately. In the event of increased local production there may be a demand for a limited amount of icing or refrigeration for restaurants and for the high-income clientele in Port-au-Prince. An endeavour to meet this demand, with due regard to its seasonal characteristics, might prove economically successful. In Puerto Rico a simple and quite satisfactory distribution of this type is in operation.

The amount of capital outlay, operating expenses and technical and distributional difficulties involved in applying this method to supplying the whole nation are such that it seems infinitely safer to rely on wet and dry salting and smoking for general distribution. Canning might eventually be used with advantage for the local market, but until the supply of fish is well assured, it would not be wise to incur the expenses involved in this processing.

If a serious effort were to be made to expand the fisheries of Haiti one of the first steps would be to master the techniques of good salting and smoking. Relatively little expense need be involved, but if these methods are to be applied on a large scale, it will be necessary first to improve the quality of the locally produced salt.

5. The Future of the Marine Fisheries

Those who have not had to deal professionally with fisheries problems often consider that untold wealth can be obtained from any piece of ocean —all that is needed is to introduce modern methods and large mechanized units to reap this harvest. This view does not recognize the fact that such large-scale units represent very considerable capital outlay; that their operation is continuously very expensive; and that they can be operated successfully only where the harvest is correspondingly great. The regions of the ocean where such operations can be carried on successfully are extremely limited.

Before attempting a fishing venture of this nature it is necessary to form an idea of the potential resources. From the physical and chemical condi-

tions of the area a good estimate of the possible extent of these resources can usually be made. Such estimate can often be supported by observations of schooling fish, sea birds and other animal life. If the estimate is extremely favourable it may be worth while to undertake large-scale experimental fishing to prove the resources; but such large-scale experimental fishing is quite expensive, and for satisfactory conclusions must be continued for a considerable period. If the estimate is less than very favourable such expensive experimentation will rarely justify the expenditure.

Where a local fishery already exists, concentration of effort on improving that fishery on the basis of the methods already in use is to be recommended. The results achieved through this conservative approach may warrant the introduction of more advanced methods, and in that connexion the undertaking of experimental fishing to gain further knowledge of the fish resources and the best ways and means for their exploitation. Such experimental fishing, however, must be kept within reasonable limits of expenditure, justifiable in terms of the results considered probable, and *should, so far as possible, be a natural outgrowth of the existing fishery.* The experiments undertaken should be simple and modest enough with respect to the technical skill and capital required to make it possible for progressive local fishermen to imitate them.[1]

In Haiti the indications are that no large-scale highly modern type of experimental fishing should be undertaken as a Government venture at this time. The type of sea bottom in this area is such that heavy trawling is definitely not feasible. The only resource which could possibly support a

[1] These remarks are not to be construed as implying opposition to investigation of the resources. They are merely intended to stress (*a*) that the probable advantage to be gained from an experimental fishing venture should be carefully estimated beforehand, and (*b*) that the risk investment in the venture should be determined *in proportion to this calculated probable advantage.* Two examples from the Caribbean area will serve the purpose of illustration:

(1) In the Puerto Rico region the evidence available before experimental fishing was initiated suggested that the resources would not permit a large-scale expansion of marine fisheries using heavy modern equipment. Between the time of the first (1931) fisheries survey (Jarvis, 1932) and the latest accounting (1947) the total catch did not change significantly, despite extensive experimental fishing employing a large scientific staff and involving the expenditure of quite considerable funds. The authorities have now in their possession two large fishing vessels and heavy modern equipment (representing an investment of about 500,000 dollars) which cannot be operated in Caribbean waters successfully enough to pay their operating costs.

(2) In the Trinidad-Guiana region, evidence available before experimental fishing commenced indicated that this region should be more productive than average; further, it showed that there would be serious mechanical difficulties in the way of operating large equipment. Quite expensive experimental fishing was carried out in this region (Whiteleather and Brown, 1945), but the resulting improvement in the local fisheries is not obvious. The most valuable information gleaned from this survey consists of small modifications applicable to previously used equipment. This information could have been obtained more economically, it would appear, by small-scale subsidization of selected local fishermen.

modern fishery is open water migratory fish. Schools of these fish have been seen on the north and south coasts of Haiti and in Windward Passage, but almost nothing is known as to the size, regularity of appearance and behaviour of these schools. While every effort should be made to accumulate information as to the characteristics of these schools, where this can be done inexpensively,[1] we would recommend against Government-financed large-scale experimental fishing at present as a poor financial investment.[2]

The logical course for Haiti to pursue is to concentrate on improving and expanding its local fishery; there is ample evidence that this could be quite worth while, although Haitian marine fishery is not likely ever to be a very large one. At present it is significantly below its potential. The difficulties in the way of expansion lie less in methods than in the temperament and tradition of the fishing population. As these characteristics are of fundamental importance for determining the course to be followed in influencing the professional attitudes of the fishermen toward their work and in teaching them the use of improved techniques, they must be considered here.

Very few of the fishermen in Haiti seem to have real love of the sea; apparently they are not happy if far from the land. Even those most accustomed to boats appear to prefer routine work on lighters and cargo craft, and this is not entirely a matter of remuneration. There is little or no evidence of a true seafaring tradition. In this region, where for a considerable period of the year the seas are not calm, lack of seamanship is a serious handicap.

The fishermen generally show little initiative toward improvements in methods and equipment, are slow to embrace such improvements—even when the advantages to be derived from them are demonstrably proven—

[1] Judicious, well-calculated financial assistance to private individuals interested in this gamble might be of profit. On the other hand, concessions to foreign fishing ventures, if carefully devised and controlled, could pay handsomely in procuring information.

[2] The often assumed parallel between Cuba and Haiti in this regard is not warranted in the present state of our knowledge. It ignores the locations of the Cuban fisheries and the behaviour of schooling fish. These schools of fish appear off northern Puerto Rico, in Mona Passage, in the Bahamas Channel, in Windward Passage, off both southern and northern Haiti, to a less extent off Jamaica, extensively in various parts of Cuba (particularly the southwest), and east of Florida. Several species of fish are involved and even where the same species is seen, it may belong to different schools or even be part of an entirely separate migration. As accurate information on these fish would be of value to all the countries in this region, the institution of a combined programme financed by all of them for seeking that information would seem a logical step. In this way the individual expense could be reduced. The potential value of the information sought would warrant a thorough survey. It is true that certain technical difficulties would be involved in an international scheme of this kind—Cuban fisheries laws, for instance, apparently prohibit the use of a purse seine—but such difficulties could be overcome. The best way of handling the proposition would seem to be for the Governments involved to contract with one organization to perform the work. For each Government to attempt to do its own piece of the job would be inefficient, expensive, and might lead to friction.

and display only a modicum of knowledge of the habits of the food fishes and of the special merits of the different methods used in fishing different species.[1] A great many varieties of equipment are in use at present in Haiti and many others, while not operated, are quite well known. Such equipment as is used is rarely well made, though the faults are seldom due to ignorance.

With due regard to the human factor, it is legitimate to conclude that no endeavour to expand the local marine fisheries is likely to succeed without the support of determined educational efforts. Elsewhere in the West Indies there is to be found evidence suggesting that the educational task should not be insuperable.

Among the many simple modifications and improvements in methods, procedures and equipment which would be worth trying in the local fishery, a few are suggested in appendix II (page 164). A small Government-sponsored fishing venture may be undertaken for the purpose (cf. recommendation 3, page 161). Such a venture, the expense of which should be kept at a minimum, would aim at providing the maximum of incentive to the men employed, and procuring the maximum of information, while upsetting the local fishing as little as possible. It would be a means of demonstrating to the fishermen what may be achieved with their active co-operation. Supplemented by a broader programme of education in the use of appropriate fishing methods, procedures and equipment, it would serve to induce the more alert fishermen to imitate proved modifications. In this way a better tradition would, it is hoped, be implanted in the young generation *pari passu* with the gradual realization of the shorter-term objectives envisaged.

6. THE FISHERIES REQUIREMENTS OF HAITI

Fish imports were very considerably larger two decades ago than they are today. In 1927, a typical year of fish imports in the past, some 16 mil-

[1] Beebe and Tee-Van, writing in 1928 of their experiences in Haiti, remarked that the Negro fishermen apparently took little interest in catching tunnies or mackerel, while the Greek fishermen, of whom there was a small colony in Port-au-Prince, specialized in the capture of these fish—an interesting carrying over of the customs of their homeland.

The equipment used by these Greeks is not complicated or expensive. It is merely a rather simple form of the true trammel net. In 1948, after prolonged search, the fisheries expert of the Mission located a single net of this variety—and it was made and operated by the last of the Greek colony.

For twenty or thirty years this particular piece of equipment had been operated in the midst of the local fishermen. Its extra effectiveness in catching the tunnies, one of the most valuable fish resources of these waters, had been continuously demonstrated. It has equal value against the mackerel fishes and some jacks. It has numerous advantages, for instance its much greater resistance to attack by sharks. Nevertheless, with the passing of the last of the "Greek colony" the trammel net may disappear completely from the fisheries of Haiti failing an appropriate educational effort to expand its use.

Mission and Haitian technicians studying lagoon area where drainage to reduce the area under water and stabilize the water level is proposed to expand crop acreage, increase crop yield, and provide more food through fish culture in the remaining water areas, canals and flooded fields.

lion pounds of fish were imported into Haiti, according to the trade statistics. As this fish was processed and the bulk of it dried, we can multiply this by a factor of at least 2 to convert it into terms of fresh fish, giving 32 million pounds.

Adding to this figure that of the local catch, which would appear to have changed but little over the past twenty years, we arrive at a total of 36½ million pounds as the fresh fish equivalent of consumption in 1927. This total corresponds to about 12 pounds per year per person—a not unreasonable amount, considering the importance of fish as a source of animal protein.

On the basis of present population the above requirement of 36½ million pounds would have to be increased—say to 40½ million pounds. As the estimated local catch would account for about 4½ million pounds, we are left with some 36 million pounds required, which may be met from expansion of the local resources together with imports—or in replacement of imports to the extent these can be dispensed with.

While the existing marine fisheries can be expanded, it seems very improbable that they could produce more than, or even as much as, 6,000,000 additional pounds of fish. The only other local resource capable of producing anything like 30 million pounds is to be found in pond culture. While it is unlikely that a supply of that order will be forthcoming from this source, it should nevertheless be aimed at if pond culture is undertaken.

7. Fish Culture

Production of fish for food should be clearly understood to be the purpose of the fish culture envisaged here. Production of fish primarily for sport is economically justified only where there are enough people willing to pay for these sports fishes a price which bears no relation to their food value.

The Mission believes that, with application of proper fish culturing methods, fish production from the inland waters of Haiti could easily equal and probably greatly exceed that of the present marine fishery. Fish culture can be roughly regarded as divided into a number of degrees of specialization such as: (1) stocking of desirable species of fish in natural waters; (2) some control of predators and undesirable species; (3) adjustment or modification of natural waters to make them more suitable for the desirable species; (4) construction of artificial ponds or transformation of natural waters into essentially artificial waters; (5) fertilization of artificial waters; (6) supplementary feeding of the fish. As one passes up the grade of specialization, the expense and labour involved and the degree of technical skill required increase rapidly; at the same time the yield increases. Productive natural waters rarely yield more than 15 to 100 pounds per acre on an average. Waters subject to low grades of fish culture do not usually show any great continued increase on this figure. At the highest stage of fish farming, the production can be tremendous. Thus in the South China carp ponds, where both fertilization and supplementary feeding are practised and where as many as six species of carp, each with its own special food habit, assure maximum utilization of all the food, production reaches and even surpasses 4,000 pounds per acre. The correct level of specialization to be aimed at will vary with the physical and chemical condition, the fish available, such economic considerations as costs of labour and supplies, and the prevailing demand and price for fish; here sustained advice of an expert and considerable experimentation are required.

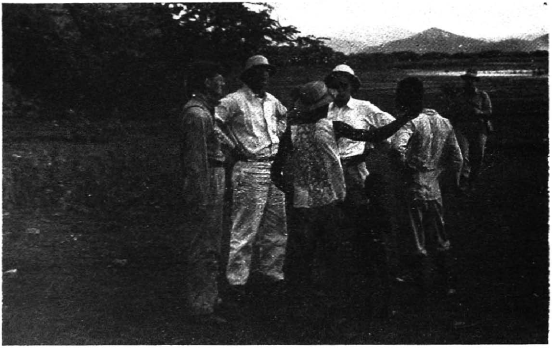
Successful culture methods have been applied to almost every type of water; from completely fresh to completely salt; from permanent ponds to those which can be maintained for only a part of the year. They have been successfully combined with agriculture and used as steps in reclamation and soil and water conservation. Successful pond culture has the merit of

putting to profitable use areas otherwise useless and unproductive; it supplies much fish where it is most needed—in the midst of the rural population; and it can often be so regulated as to even out supply, avoid gluts and meet exceptionally heavy seasonal demands.

Haiti possesses a very considerable area of lakes, rivers, irrigation canals and ditches, waste land capable of being flooded, and a great variety of shallow lagoons, both salt and fresh; all of these are at present unproductive or produce only at an extremely low level, and most of them have little or no agricultural potential. In addition, there are considerable rice-field areas the flooding of which is contemplated. In various parts of the world areas similar to all those named above have been made productive by fish culture.

Within the Caribbean area very little has been done on "fish farming". Our most successful examples of these techniques in tropical and subtropical regions are located in the Middle and Far East. Here the methods have largely evolved, by trial and error, over centuries. It is only within very recent times that the scientific fish expert has given them serious consideration, and he has yet a great deal to learn. For this reason, precise, accurate accounts of such operations are largely non-existent. Even were such information available, the methods developed elsewhere could not be applied to the Caribbean area without modification if the best results were to be achieved. There will always be slight differences in the environment which may be of the utmost importance in determining the exact technique to be followed. Even more vital is the fact that most successful fish farming has been based upon one or more particular species—and success has been achieved by meeting the exact needs of these species. In the Caribbean, few of these varieties are readily available and none is native. To introduce here species which have proved successful elsewhere would offer but a limited solution, as many of the best ones have not been bred in captivity. Introduction of some species into new environments can cause serious damage, as has for instance the black bass in Cuba. Before really efficient pond culture can achieve its full potential in the Caribbean area, a great deal of careful experimentation and intelligent trial will be necessary to devise methods most suitable to the environment and the animals available.

In one way, the general ignorance of these methods in the Caribbean could be of advantage. In almost every large country in the region there are similar unused potentials; in some of these the need for additional internal sources of animal protein is almost as great. It would seem reasonable that such a general need and opportunity should be solved by a combined programme of research and employment of specialists for the whole area or for a number of participating countries. In this way costs to each



This lagoon area offers great possibilities for control of water and improved rice and fish production.

country could be greatly reduced, better facilities made available, and a higher grade of investigators employed.

In Haiti the trained personnel needed for even the more modest forms of operation are entirely lacking; nor, it would appear, are there many with the necessary fundamental training in biology to acquire the knowledge necessary for successful experimentation in this field.

The difficulties in the way of success in establishing fish culture in Haiti are so numerous and varied that only the magnitude of the possible prize and the greatness of the need demand that we urge careful consideration of these possibilities. On the basis of the highest yields known, less than two square miles of ponds could produce more fish than the total present marine fisheries—and there are many square miles available for such undertakings. In no other way do we see any possibility of Haiti producing the 30 to 40 million pounds of fish which we consider it needs. But the Government must not enter into this undertaking lightly or without full realization of the difficulties involved and the long and careful work required for ultimate success. Failing this, the result would be a waste of money, time and effort to no worthwhile purpose.

If it is felt that this field should be explored further, a first class expert, familiar with successful practices throughout the world, should be obtained

to make an extended survey. If, as a result of this survey, it is decided to embark seriously on fish farming, the expert should lay out a series of pilot operations,[1] and should be retained on an advisory basis for a number of years to supervise the implementation of his plans and modify and expand them in the light of experience. In addition, steps should be taken immediately to train at least two local men in the basic principles of fish culture. These men would be responsible for carrying out the plans of the specialist. As such operations would be unique in this area, the authorities would have to show a sympathetic understanding of the complexity of the problems involved. Undue impatience or demand for immediate results could prove fatal to the undertaking. Fish cultural activities can range all the way from mere meddling with natural conditions to the most complex form of farming. The selection of the level of operation will depend upon the advice of the expert and the degree to which the Government wishes to involve itself in these operations.

Without attempting here to formulate recommendations of detail, which should await the results of a painstaking survey by a specialist in the field, it may be of value for determining further action to review some of Haiti's more obvious potentials for fish culture.

1. *Region of the lower Artibonite,* between Routes 112, 111 and 16, lying between the Estère and Artibonite Rivers:

(*a*) In this region, particularly in the bend of the Estère, there are numerous shallow lagoons, ponds and swamps. Many of these could be converted into fish ponds without great expenditure of time or money. In addition there are many miles of irrigation canals and drainage ditches which could carry a sizable fish population;

(*b*) Here it is contemplated to grow a large area of lowland rice which would be flooded for a considerable part of the year. In several countries (e.g. China and India) excellent results are obtained by placing small fish in the rice paddies to grow and fatten.

This area could be made a pilot experiment for similar systems elsewhere in Haiti, and for this purpose it presents many attractive features. Extensive irrigation developments are now being made. At this time the irrigation engineer would, with the assistance and advice of a specialist in pond culture, be able to design and construct ponds most cheaply and satisfactorily. The ponds here could and should be designed as an integral part of

[1] As fish ponds often tend to become breeding grounds for larvae of anopheline mosquitoes, it is highly desirable that these pilot operations should be conducted in due consultation with malariologists to render fish farming as innocuous to health conditions as possible.

The cultivation of top-feeding minnows such as gambusia, as a larvicidal agent has been referred to in chapter III of part I, page 70.

the agricultural development. The best way of achieving the integration would be to place the scheme under the charge of the irrigation engineer, who should be advised on lay-out and practices by the above specialist. A local man, trained in pond culture, should then be assigned to operate these ponds in consultation with the irrigation engineer.

2. *Grande Saline region:*

This region comprises a low-lying saline plain on either side of the mouth of the Artibonite River. Originally the local community was quite prosperous, but the fall in the price of salt and the declining demand for logwood have greatly depressed its economy. It would seem a suitable area for testing out the possibilities of fish culture in salt and brackish ponds and in mangrove swamps. Such ponds have been very successfully operated in India and the Philippines.

If pond culture could be made to succeed here, it would be greatly to the advantage of this economically depressed community; also the juxtaposition of fish production and salt production would form an admirable unit for producing cured fish. The area available is so extensive that, if successful techniques could be evolved, the production could be very large.

3. *Etang de Miragoâne region:*

Near this lake is a large area of shallow water, heavily covered with aquatic vegetation. All indications are that the area could be converted into productive fish ponds.

The lake itself at present yields nothing. Its general appearance seems to justify the belief that it could be made reasonably productive.

4. *Etang Saumâtre and Trou Caïman:*

Etang Saumâtre is a really large body of slightly saline water. It carries quite a thick bottom growth of algae and appears to have considerable plankton. It may therefore be expected to be capable of considerable production. At present it has a native population of small fish, turtles and alligators. It is fished in a very desultory way with very inefficient equipment, so that we have no measure of its true present potential. The alligators and other predators should be eliminated or at least reduced, and the true potential should then be measured. In both India and Egypt very fine results have been obtained in quite similar waters by introducing the larvae of estuarine fish, for instance mullets. This would be eminently worth trying here.

Trou Caïman is a shallow area not unlike that near Lake Miragoâne. At present efforts are being made to drain it. Perhaps parts of it had better be converted to fish ponds.

8. Recommendations

In conclusion of its examination of Haiti's fisheries problems as reviewed in some detail above and in the appendices immediately following this chapter, the Mission recommends that:

As concerns *fishing waters,* both coastal and inland:

1. Appropriate regulation should be instituted to guard against pollution by industrial waste (such as pulp from sisal decortication and pulp and fermenting juices from the processing of coffee) causing destruction of fish;

As concerns *marine fisheries:*

2. As the logical course for Haiti to pursue is to concentrate on raising the output of the present fishery industry within its traditional frame, measures should be taken, by means of gradual introduction of new methods, by making available better equipment, and by propagating the use of such methods and equipment, to improve the yield of that industry;

3. To assist in fostering the development advocated in recommendation 2, the Government may sponsor a modest project for experimental fishing, helpful in detecting needs and in testing modifications and improvements in methods, procedures and equipment which would be worth while trying in the local fishery; a model fishing vessel, power driven and relatively small in size should be provided for operating this project;

4. As reliable information on the occurrence in Caribbean open waters of oceanic migratory fish—a seafood resource of great potentiality—would be of value to all the countries in the region, the possibility of instituting a thorough survey, jointly sponsored by them, for seeking that information and for determining the characteristics and catchability of the species passing through these waters should be explored; while Haiti cannot alone undertake any large-scale experiment of this nature, judicious steps to encourage the reporting of relevant observations by operators in Haitian and adjacent waters may well be considered;

As concerns *fish culture:*

5. Since fish culture in ponds seems the only means capable of expanding the supply of fish from local resources (as distinct from supplies obtained through import) to a volume reasonably close to total consumption requirements, the Government should give full consideration to the feasibility of developing pond culture on an intensive scale (that very real difficulties would be encountered in the realization of that development must be fully recognized; considerable experimentation calling for expert advice would be needed);

6. Before deciding on a programme of pond culture development, the services of a first-rate specialist familiar with successful practices in other countries should be secured for making an extended survey; if in the light of such survey decision is taken to embark seriously on fish farming, the specialist should be retained for a number of years to lay out pilot operations and supervise their implementation; further, steps should be taken to train at least two local men in the principles of fish culture, these men to be responsible for following up the plans of the specialist;

7. As there is need for efficient pond culture throughout the Caribbean, the possibility of enlisting the co-operation of the various countries of the region in a jointly sponsored programme of research and experimentation under supreme guidance of one and the same specialist should be explored;

As concerns *processing, handling* and *marketing* of the fish:

8. Active steps should be taken for improving the quality of the processed fish supplied to the market—to this end a much better grade of local solar salt than is now used should be produced, which could, in fact, be done without any great increase in cost;

9. As salting is the cheapest and most acceptable method for processing fish under Haitian conditions, careful and continued experiments should be undertaken at once to determine the best methods for wet and dry salting of the various types of fish under the particular climatic conditions obtaining in the different parts of the country;

10. While there is little immediate need for additional facilities for the handling and marketing of the fish, organized measures should be taken for improvement of these facilities and for their amplification in the event of a substantial expansion of the fish production.

APPENDIX I

Observations on Salt and Fish Salting

TABLE 4

(Percentage composition by weight)

	NaCl	*$CaCl_2$*	*$CaSO_4$*	*$MgCl_2$*	*$MgSO_4$*	*KCl*	*Insoluble*	*Traces & errors*
Liverpool salt	98.09	0.03	0.77	0.04	0.0	Not det.	0.02	1.05
Turks Island salt	96.03	0.12	1.84	0.61	0.28	Not det.	0.38	0.84
Haiti salt ...	87.44	0.46	2.07	4.19	2.43	0.58	2.61	0.22

Note: Analysis of Liverpool salt and Turks Island salt modified from average figures from Hess (1942). The sample of Haitian salt was purchased in the regular market and was stated to have come from Gonaïves.

Liverpool salt is a high grade fisheries salt. The Turks Island salt represented by the above analyses is acceptable but not good because of the rela-

tively high amounts of sulphates and of salts of calcium and magnesium. Since the above analyses were made, the Turks Islands have employed a "salt manager" empowered to enforce standards for salt production and the quality has improved. Analyses on present production would be much closer to those for Liverpool salt.

The Haitian salt, by comparison, is very bad. Note the very high values for insolubles (chiefly dirt), sulphates and salts of calcium and magnesium.

The importance of the presence of these chemical impurities lies in the fact that salts of calcium and magnesium reduce the rate at which salt preserves fish. Thus the period during which bacterial decay can continue is correspondingly prolonged—a particularly serious matter in tropical fish salting where the rate of decay is so rapid.

Salt of such poor quality is the result of poor procedure at every stage in the preparation. These high concentrations of salts of calcium and magnesium and sulphates suggest that the salt is prepared in a single-pond process; at best completely inadequate steps are taken to control separation of undesirable constituents in a primary "concentration" reservoir before crystallization or to remove the "rotten pickle" during crystallization. While the high value for insolubles is partly due to the same cause, it is chiefly the result of failure to clean the salt ponds or observe sufficient care during salt gathering.

Admittedly these conclusions are based upon only one analysis; but of the numerous samples seen, none appeared to be appreciably better. Preparation of a good grade of salt should not be overly difficult or unreasonably expensive. As salt production is an industry of relative importance in the Republic, some thought should be given to producing a good quality product.

Fish salted with this Haitian salt showed considerable "reddening". This is due to a group of bacteria practically always found in solar salts. While more careful preparation of the salt and prolonged maturing of it in the sun will reduce the bacterial infection, it cannot be eliminated in this way.

In wet salting, while this reddening is objectionable, it can be partly controlled by completely submerging the fish. These bacteria will not grow in the absence of oxygen. In dry salting no such control is really possible. Here the reddening is particularly objectionable as it causes the dry salt fish to "weep" and reduces the keeping qualities very seriously. The only real solution is to sterilize the salt in some way. The addition of small amounts of various chemicals to the salt has been fairly effective; and the best of these appear to be sodium acid phosphate and sodium benzoate. Relatively low temperatures will completely sterilize salt, but this treatment is not usually economically feasible. The reddening of fish can often be delayed or completely eliminated by exposure to direct sunlight.

Dry salting, where a good quality dry salt fish can be produced, is the most satisfactory way of handling fish for a tropical peasant community. While a great deal of information is available on dry salting in temperate regions, the data for tropical conditions are not very complete or satisfactory. Venezuela produces a dry salt fish product of reasonable quality and Haiti would be well advised to use their methods as a starting point, modifying them later in the light of experience.

In general, rather heavy salting and sun drying give the best results in the Caribbean. Some fish at all times and others at particular seasons are too oily for satisfactory dry salting. Such fish, and very small fish, are usually better handled by wet salting. This method should also be used in wet or humid weather or where conditions make it difficult to dry fish rapidly.

Often smoking combined with various degrees of previous salting will produce a good product when salting alone fails. Information on smoking and the erection of small, inexpensive smoke houses could be obtained from the United States Fish and Wildlife Service.

In general the quality of the salted fish produced depends upon the following factors in the order given:

(1) Absolute freshness of the fish;
(2) Cleanliness and care in cleaning the fish;
(3) Purity of the salt, which should not be too coarse;
(4) Method of drying and protection from rain and dew;
(5) Method of salting; and
(6) Method of storage.

As salting is the cheapest and most acceptable method for preserving fish under Haitian conditions, careful and continued experiments should be undertaken at once to determine the best methods for wet and dry salting the various types of fish under the particular climatic conditions obtaining in the different parts of the country.

APPENDIX II

Expansion of the Marine Fisheries

There are many simple new techniques and slight modifications or new uses of old ones which could produce results in the Haitian fisheries. In addition there are several potential sources of supply which are at present not exploited or are very incompletely exploited.

In testing out modifications of an existing fishery, a combination of four things is required: (1) local knowledge; (2) a new idea or method; (3) determination and drive to examine it; (4) intelligent perseverance. Many experiments in fisheries have failed through omission of one of these requirements.

Below are some notes on these matters. The list could be extended to several times the length, but it has intentionally been kept in the simplest terms (to things which the local fisherman could carry out) and to those where there is a reasonable prospect of success.

A great many more ideas and suggestions can be obtained from the American and British fisheries reports on various parts of the Caribbean region.

1. The Deep Water Reef Fish

In Whiteleather and Brown (1945) will be found a good discussion of methods of catching these fish, especially the deep water snappers. Additional information can be obtained from reports of the United States Fish and Wildlife Service on the Campêche fisheries. Careful examination of

the accounts will suggest many ways in which present fishing methods can be improved. It will also draw attention to the notoriously patchy distribution of these snappers, which hence are not easy to locate.

If careful records are kept, it will be found that most of these deep reef fish are seasonal in abundance or at least in catchability, and the determination of these behaviours will prove of value.

2. Large Migrating Fishes

Large migrating fishes—the Bonito-like fishes and the mackerels—could be better taken than at present if the trammel net were more widely used.

Trolling is seasonally quite effective and here again Whiteleather and Brown (1945) should be consulted for the best method of rigging multiple lines, type of baits, etc. These groups of fishes are particularly seasonal in abundance and the seasonal distribution in different localities should be determined.

Experiment should also be made on the Japanese model, that is, of using long lines buoyed at appropriate depths off the bottom.

3. Shallow Water Groupers

Several species of grouper congregate in spawning runs in almost countless numbers. The runs are highly "local" and last for but a few days, usually in December, January and February. Some at least are timed for or just after the full moon. Some always occur in patches of white sand just outside the reef in about twelve fathoms of water, others in similar localities in about forty fathoms. Where these runs have been located it has been found that the fish return to the same small area year after year.

Because these runs are of such short duration (three to five days) and so extremely local, they can very easily be missed. However, if found, they yield astonishing catches, and a careful search for them should be made.

4. Pot Fishing

Pot fishing (nasa) in Haiti is entirely by pots woven from bamboo, cane or other local material. For some species of fish, notably some jacks, these pots are too dark, and better catches have been obtained with pots made of large mesh chicken wire.

The problem of whether to bait pots and if so with what material, is a somewhat intricate one. However, indications are that at certain seasons of the year careful baiting of pots with specific baits is profitable.

A modification of the ordinary single pot technique is the "gang pot" method. Here a number of small pots are strung out attached to a single line on the bottom. In some localities and seasons this method is very effective, as it allows many more pots to be worked with the same amount of labour.

5. Fish Weirs and Pound Fishing

This type of fishing is apparently not used in the sea in Haiti though it is imitated in the rivers and estuaries. It can be extremely successful in certain localities and should be tried. However, it must be realized that the location and form of the weirs is extremely important and that often they must be moved seasonally. Such structures should be carefully tended.

Operation of fish weirs should be kept under official control, at least in the initial stages. The widespread opposition to these structures would appear to be largely based upon prejudice; however, very serious objection can be taken to badly operated and designed structures. When well designed and operated, fish weirs are no more wasteful or destructive than other fishing methods. When well situated they can be extremely efficient and well suited to a non-seafaring people. However, on social grounds, it would seem wise to avoid localities such as Port-au-Prince Bay, where fishing is already intense.

A special modification of this method of fishing can be used to take advantage of the rainy seasons. As large quantities of fresh water come down into coastal lagoons and salt ponds, many marine fish leave in large numbers for the sea. By setting barriers and traps in these localities at the appropriate time, large hauls can be efficiently made. If this method proved successful, care would be needed to see that it was not *too* efficient.

6. Flying Fish

On the north coast and to a lesser extent on the south coast, considerable schools of flying fish are often seen. In Barbados these fish form the most important fishery (see Brown's report on Barbados). The possibilities in Haiti would be worth examining.

7. Shark Fishing

In many localities sharks are seasonally very common. While there is some doubt that the price of vitamin oils from sharks will remain high, the value of the other products is considerable. The flesh, if salted, is quite satisfactory for human consumption. At present the only method of fishing these animals is by spearing and by hook and line. Long chain lines and tangle nets are much more effective. (See *Guide to Commercial Shark Fishing in the Caribbean Area*—Anglo-American Caribbean Commission.)

8. Gill Nets

Ordinary gill nets are not usually very satisfactory in Caribbean waters because of the large variety of fishes encountered. Gill nets are extremely selective and are efficient only against fish of the size and shape appropriate to the net. For this reason they are successful in Caribbean waters only at times when large schools of herrings, etc., are available (i.e. seasonally).

Further, because of the clarity of the water gill nets are rarely satisfactory in the daytime. If preservation of nets is practised, it would be better to use some form of copper soap, giving a light green colour, rather than tanning, oiling or tarring.

In general, various modifications of the trammel net will be found more satisfactory than true gill nets for general drift net fishing.

9. Preservation of Nets

If good preservation and handling of nets were instituted, considerable reduction could be made in the cost of operation (see Whiteleather and Brown, 1945).

Very considerable areas of the waters of Haiti are underfished; particularly is this true of the south coast. Whether this under-fishing is due to marketing difficulties or to other causes should be investigated.

As the best method of initiating an expansion of the fisheries, the Government may consider the financing of a small experimental fishing venture. This operation may be placed under the control of some non-profit corporation rather than directly under any department or official of the Government.

A relatively small fishing vessel should be used—about 30 feet in length. It should be fitted with power and auxiliary sail, and, if possible, avoid the objectionable features of the locally made fishing boats.

It should operate out of Les Cayes and should undertake the various experiments suggested above. (The necessary equipment should be provided.) In addition, some member of the fishing team should be made responsible for experimenting with wet salting. As far as is consistent with energetic and intelligent working of the vessel, the team should be selected from among the local fishermen and remuneration should be such that the very best men can be recruited. Continued tenure should be dependent upon operational efficiency. Some over-all supervision and assistance at a higher level will be necessary, and this should come from the controlling non-profit corporation.

A careful day-by-day record should be kept of all operations, times, locations, equipment used, weather conditions, depth of water, nature of the bottom, damage to equipment, and the weighed amount of kinds of fish in the catch.

As an inducement to active interest, the team operating the vessel should be credited with the value of half the catch (at established operating price) in addition to their wages. However, each member should be made to understand that continued employment on the team is dependent upon active participation in the trial of methods.

The total catch obtained should not be placed upon the local market, as this could upset present market conditions. It should be used for experimenting in handling, salting, smoking, etc., and the products should be disposed of in the rural sections of the island.

At the end of six months the whole enterprise should be examined to see what progress has been made and to consider further operations.

APPENDIX III

Reference Sources on Fisheries

The first survey of the Haitian Fisheries was carried out by officers of the Agricultural Department in 1942/43 (Audant and Hulsizer).[1] At about the same time Lobell and Lucas spent a short period in the Republic and from their own observations and those of the Agricultural Department, compiled a report which first appeared in 1942 and was republished in

[1] Audant, André and Allan Hulsizer, *Relève de la pêche en Haïti*. Bulletin No. 28, pp. 1-31. *Imprimerie de l'Etat*, Port-au-Prince, Haiti, 1943.

1947.[1] From 1943 to 1947 memoranda were presented to the Government on the fishing situation by various amateurs, and in the latter year a short survey was carried out and a report prepared for the Food Supply Mission by Leo Young (1947).

Prior to 1942 a number of collections of fishes from the region had been made and the species of fish present in both fresh and salt water were fairly well known. Four relevant reports are recorded here, namely, Beebe and Tee-Van (1928),[3] Myers (1935 and 1937)[4] and Tee-Van (1935).[5]

As regards the physical and chemical nature of the marine environment rather complete information is contained in a variety of publications. Reference to these works will be found in the appropriate sections of Sverdrup *et al.* (1942). In addition, considerable information is contained in the appropriate United States Government hydrographic and meteorological charts and sailing directions.

Relatively little information is readily available on the environmental characteristics of the inland waters. Relevant data are no doubt recorded in such places as water and geological surveys, agricultural reports, etc., but the short time at his disposal not permitting of a search of this extensive literature, the fisheries expert of the Mission has had to be satisfied with inferences drawn from the general appearance of the lakes and the plants growing in them. A limited survey of some of the saline lakes has been made, however, by Bond (1935).[6]

Except for the brief period from 1942/43 when André Audant, at that time head of the Zoology and Entomology sections of the Agricultural Department, was collecting reports from agricultural field officers, the existence of the fisheries does not appear to have been officially recognized. Aside from the Audant and Hulsizer report, there are no statistics of any sort on the local fisheries.[7]

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[1] Fiedler, Reginald H., Milton J. Lobell and Clarence R. Lucas, *The Fisheries and Fishery Resources of the Caribbean Area.* U.S. Department of the Interior, Fish and Wildlife Service, Fisheries Leaflet 259, pp. 1-210. Haiti, pp. 176-186. Washington, D.C., 1947.

[2] Young, Leo, *Fishery Investigation in Haiti.* Typewritten report. 5 pp.

[3] Beebe, William and John Tee-Van, "The Fishes of Port-au-Prince Bay, Haiti." *Zoologica,* vol. X, no. 1, pp. 1-279. "Additions to the Fish Fauna of Haiti and Santo Domingo." *Zoologica,* vol. X, no. 4, pp. 317-319.

[4] Myers, George S., "An Annotated List of the Cyprinodont Fishes of Hispaniola, with Descriptions of Two New Species." *Zoologica,* vol. X (1935), no. 3, pp. 301-316. "Fresh-Water Fishes and West Indian Zoogeography." *Smithsonian Report for 1937,* pp. 339-364.

[5] Tee-Van, John, "Cichlid Fishes in the West Indies with Especial Reference to Haiti, Including the Description of a New Species of *Cichlasoma.*" *Zoologica,* vol. X, no. 2, pp. 281-300.

[6] Bond, Richard M., Investigations of some Hispaniolan Lakes. II. Hydrology and Hydrography. *Archiv für Hydrobiologie,* Band 28, pp. 137-161. Stuttgart.

[7] Other reference sources used were:

Hess, Ernest, *Studies on Salt Fish.* VIII. (1942). *Effects of Various Salts on Preservation. J. Fish. Res. Bd. Can.,* 6(1), pp. 1-9.

Whiteleather, Richard T. and Herbert H. Brown, *An Experimental Fishery Survey in Trinidad, Tobago and British Guiana.* Anglo-American Caribbean Commission, pp. 1-130. Washington, D.C., 1945.

CHAPTER III

Industry

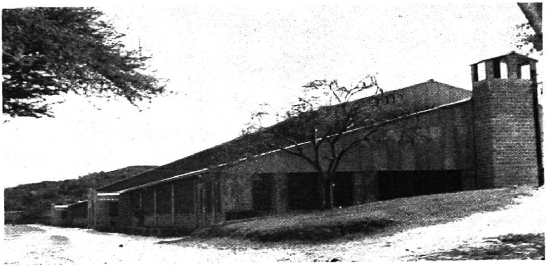
A. GENERAL CONDITIONS

Agriculture has always been and will most likely continue to be the basis and backbone of the Haitian economy. Industry is and, presumably, will remain essentially a supplementary economic activity based very largely on agriculture as a substructure, the local materials lending themselves to industrial transformation being mainly of agricultural origin. Haiti's mineral resources are scarce, and its capacity to develop a manufacturing industry on the basis of imported materials is obviously quite limited in present circumstances. The extreme narrowness of the domestic market—narrow in terms both of purchasing power and range and variety of demand—coupled with extreme paucity of capital and technical skills necessary for the development of industries, is a further limiting factor placing a close ceiling on the feasible industrialization of Haiti, at any rate for some time to come.

This appraisal of the basic limitations and difficulties facing industrial development in Haiti should not be understood to suggest that there is no room for enlarging and improving the industrial set-up now in existence. On the contrary, there are substantial and sound possibilities for increasing the scale and widening the range of production of simple manufactures for the home market and also for broadening the scope and advancing the degree of processing of goods for export. Furthermore, economical production of energy could be developed based on rational utilization of domestic resources in place of costly imported fuels now relied upon to a large extent. The output of building materials needed for improved housing and for road construction, sanitary engineering and agricultural development works could also be expanded, and small industry and handicraft activities utilizing local materials and skills could be promoted throughout the country.

The pattern of industrial development will be determined essentially by the character of the natural resources and their availability, and also by the responsiveness of the people to technical training, in which field a great task confronts the educational system.

Haiti's dependence upon imports of manufactured goods in the nature of basic necessities is very marked, textiles (chiefly simple cotton goods), certain foodstuffs (wheat flour and oils), and soap accounting for over half of total imports. These are exchanged for exports mainly of coffee,



New spinning mill, Port-au-Prince, makes good quality cloth.

bananas, sugar, and sisal. Raw cotton, accounting before the war for a sizable proportion (in 1934/35 over one-fifth) of the total, has of late figured scarcely at all in the exports. Most of the reduced crop of cotton[1] will, in fact, be absorbed henceforth by the cotton spinning and weaving industry which has recently been set up at Port-au-Prince and which will be capable of satisfying a substantial part of the present demand for coarse cotton fabrics. Production of some of the other necessities here referred to could also be undertaken with advantage (or expanded, where beginnings have already been made), thus allowing imports to be shifted to goods of other kinds needed for the economic development of the country.

Industries producing prime necessities in constant demand provide a certain measure of economic stability tending to offset in some degree that sensitivity to extraneous economic fluctuations which permeates any underdeveloped economy relying on production of primary commodities for export. Processing of such commodities prior to export is likewise conducive to economic stability if the processed product is assured of a steadier market than can usually be found for the unprocessed raw material. Substantial advantage could be gained, it would appear, by undertaking in Haiti the manufacture both for the home market and for export of certain standard commercial products from sisal (e.g. bags and similar packing material) in addition to the existing handicraft production of fancy articles of sisal, such as decorated handbags and shoes, the demand for which is influenced by capricious changes in fashion. Notable success has already been achieved in production of essential oils for export.

[1] Cf. part II, chapter I, page 140.

Looking beyond the more immediate future and bearing in mind the *dynamics inherent in prudently* guided economic development of an underdeveloped country, it is but reasonable to expect that, with the rise in living standards that can be brought about in the short run in Haiti and is then bound to find expression in concomitant growth of effective demand, new opportunities will gradually be opened up for industries supplying goods needed in the home market. The possibilities for profitable expansion of manufacturing for export are obviously more limited.

Elsewhere in this report it is pointed out that, in consequence of heavy population pressure on the limited land resources, under-employment obtains in marked degree in the rural areas. Rationalization of methods and practices of production with a view to improving the efficiency of agriculture is likely to bring a great deal of the "hidden" unemployment out into the open. Some part of this idle manpower should be able to find gainful occupation as new employment opportunities are provided by the industrial development here envisaged.

In order to allow maximum benefits for the country to be drawn from the development of industry, modern technology should be made use of to the fullest extent compatible with Haitian conditions. Obviously, the modern principles, procedures and techniques of production, mostly evolved at large operational units in industrially advanced countries, must not be slavishly copied in Haiti, but rather be adapted or modified with regard to such aspects as optimum size of the plant, sequence of operations, and mechanization of processes to fit the pattern likely to prove economically most advantageous in Haiti. In the training of Haitian nationals in the managerial and technical skills needed for this purpose at all levels of operation, advantage should be taken of the experience gained in other countries.

Although in Haiti the general level of wages is low and may well for some considerable time to come remain low in comparison with wage levels in economically advanced countries, this should not be allowed to detract unduly from the use in industry of labour-saving methods of production, where such methods (implying higher capital-intensity of production) are capable of yielding clearly advantageous economic results. For, where labour productivity is low—as is usually the case in an underdeveloped economy—labour costs may prove high even if the wages enjoyed by the workers are meagre. A citation from an authoritative source treating labour costs in another Caribbean territory will serve to illustrate this point:

"At present, labour costs in Jamaica are among the highest in the world. It costs more than in England, sometimes twice as much, to perform most

tasks, from excavating a cubic yard of earth or loading a ton of goods to repairing a machine or typing 1,000 words".[1]

In examining the possibilities of industrial utilization of the different kinds of resources available in Haiti, the Mission has taken into account three basic types of industry differing in general economic character. Thus, in addition to the type of processing and manufacturing industry referred to above (in the second preceding paragraph), which is to be found principally in the urban setting, the development of simple rural industries appropriate for the village environment has been borne in mind. Such industries can profitably undertake on a modest scale the transformation of local materials into products of immediate use in the Haitian countryside. Finally, the importance of the primary type of manufacturing represented by the handicraft activities undertaken by the individual craftsman, usually with the assistance of members of his household, must not be overlooked.

The industrial development potentials are reviewed in some detail below and consideration is given to certain organizational measures that may be taken in support and encouragement of the desired development. Attention is also devoted to necessary educational measures and to those aspects of the Haitian industrial development problem which relate to credit organization, the tariff system, and fiscal policy.

B. POTENTIAL INDUSTRIAL RESOURCES

Processing of sugar cane and decortication of sisal represent the two major agro-industrial activities now undertaken in Haiti. Raw sugar is produced both for domestic consumption and for export; in a minor degree the processing is advanced further to production of refined sugar and rum, almost exclusively for the home market. The bulk of the decorticated sisal fibre is exported, a small fraction only of the output of this semi-manufactured product being used in the handicraft manufacture of coarse mats and rugs and fancy articles.

The lumbering and sawing of timber which is carried on by the forestry division of SHADA[2] in the high-altitude pine forest above Fond Verrettes is another agro-industrial activity of considerable economic importance, though it is not capable of fully satisfying the country's requirements of sawn timber.[3]

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[1] *Report of the Economic Policy Committee*. Jamaica, B.W.I., 1945, page 15.

[2] *Société haïtiano-américaine de développement agricole.*

[3] Of the formerly rich resources of mahogany for which Haiti was once famous, but little now remains; yet, if economy were made in the use of this precious wood by substituting simpler species for it wherever such species can serve satisfactorily, enough should remain for the requirements of the promising handicraft manufacture of mahogany goods initiated in recent years.

Reference has been made above to the encouraging results achieved in the production, for export, of essential oils. The extraction of edible oils (for domestic consumption) undertaken in recently modernized or newly constructed factories also deserves mention as an example of industrial activity in which modern technology is applied. Finally, there is the new cotton mill (at Port-au-Prince), already referred to, which with its 400 looms and accessory installations is technologically the most advanced manufacturing enterprise in Haiti.

What other industries are now to be found in the country are operated on a quite modest scale and, by and large, with little modern equipment and technical knowledge. Among them may be mentioned as examples such simple food processing and accessory enterprises as bakeries and antiquated flour mills, small ice plants and plants for the preparation of fruit preserves and sparkling beverages, manufacture of cigarettes, and extraction of sea salt. There are in addition a great many rudimentary tanneries and some small enterprises making shirts and light clothing. Mention may also be made of such other enterprises of the rural or home industry type as lime kilns, brick yards, tile and earthenware works, and furniture handicraft.

In the almost complete absence of relevant numerical data, and particularly of production statistics, no quantitative appraisal of industrial potentials can be made. A survey of the resources must therefore content itself in the main with such rather general notions regarding the occurrence of resources of different kinds[1] as can be gathered through local observation and from enquiry of persons having a thorough knowledge of the various regions of the country. The information thus obtained with reference to industrially utilizable resources is here reviewed under five broad headings, namely, agro-industrial resources, mineral resources, fuel and power resources, small-scale engineering and repairs, and handicrafts.

1. Agro-Industrial Resources

In the chapter on Agricultural Development and Rural Welfare, with appended notes on specific crops, information is given regarding the conditions of production of a number of food crops and other agricultural products which offer possibilities of industrial utilization in Haiti. It is not necessary to dwell at any length here on the recommendations there made. It may be well, however, to summarize succinctly and supplement to some extent the conclusions and suggestions regarding possible expansion of the industrial processing of the products in question.

[1] The mineral resources are no exception in this respect, even in those parts of the country which have been covered by geological surveys in the past.

Vegetable oil materials

Haiti is considerably short of both edible and industrial oils. In note (ii) appended to the chapter on agricultural development (page 132), an extension of coconut and African oil palm cultivation with a view to enlarging the raw material supply for the oil extracting industries is recommended. Other oil-bearing crops such as cotton and sunflower seeds, benzolive, ground nuts, castor beans, and soya beans are grown or could with advantage be grown in Haiti. Substantial expansion of the manufacture for the home market of edible oils, and revival and expansion also of soap and candle-making, partly in the form of rural community production, would seem possible on the basis of these various raw materials. Development of the production of shredded coconut may also be considered.

Cacao

Haiti was once famous for its cacao. Rehabilitation of its production of this article, mainly for export, is recommended in note (i) appended to the chapter on agricultural development (page 131). The creation of a small local candy and chocolate industry would provide a domestic outlet for part of the recommended extension of the cacao production.

Sugar

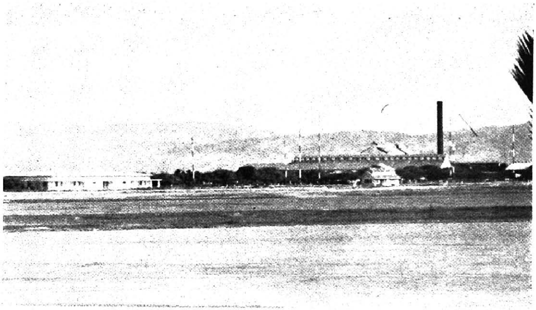
While it would not seem advisable to expand substantially the present area under sugar cane, it should be possible to raise the yield considerably. (See note (vii) appended to the chapter on agricultural development, page 141.) The possibility of advancing the processing in the sense of increasing the production of refined sugar, of high quality rum for export, particularly to Europe, of edible canned molasses, and edible yeast from molasses, should be explored.

Fruit products

There would appear to be room for expansion of the industry preparing and canning for the home market juices, preserves, jellies, paste, etc., from fruits and vegetables. The development of this processing industry would obviously gain from qualitative improvement of the fresh product.

Tobacco

As pointed out in note (v) appended to the agricultural chapter (page 137), Haiti has plenty of suitable areas for growing tobacco of good quality, principally for cigarettes, which could be manufactured locally in substitution for imported brands now accounting for much the greater part of the tobacco consumption in Haiti. Small-scale manufacture of cigars from Haitian tobacco may also be developed to meet local demand in the first instance.



Sugar factory. Haitian-American Sugar Company. Port-au-Prince.

French sugar mill at Cabaret, over 150 years old. Portions of the building are in use at present.

Spices, vanilla extracts, wheat-flour

The processing of locally grown spices and the preparation of vanilla extracts should offer certain possibilities. The advantages of expanding the milling in Haiti of wheat flour from imported grain should be examined and weighed against the possible disadvantages involved in bulky imports of grain *vis-à-vis* the freight-economizing import of flour. The possible spoilage involved in storing flour in a tropical climate would also have to be taken into account.

Dairy products

In connexion with the agricultural development projects centred on livestock and pasture management (particularly on the Central Plateau) which should include the establishment of dairy centres with the primary object of producing butter and cheese, the possibility of undertaking the production of processed milk—condensed or powdered—may be considered.

Cotton

Production of this fibre is now only about half of what it was some twenty years ago. It could be greatly increased and provide the basis for continued expansion of the cotton spinning and weaving industry to cover all the requirements of simple cotton fabrics for domestic use (See note (vi) apended to the agricultural chapter, page 139).

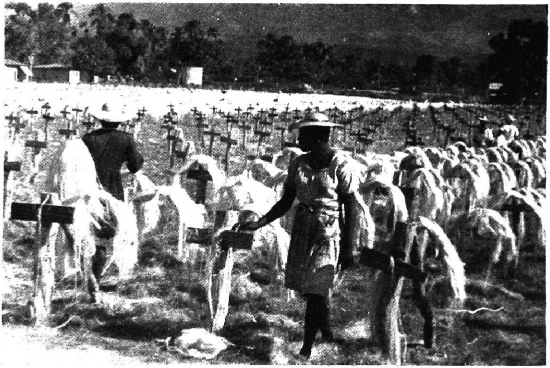
Coarse fibres

Much of the available land which is unsuited for food production could be used for expanding the production of sisal. It is by no means certain, however, that the present favourable price situation in the export markets will hold for any protracted period. (See part II, chapter I, Agricultural Development and Rural Welfare, page 96.) Haiti would have much to gain from extending the domestic processing of the fibre, e.g., into twine, bags for coffee, sugar, etc.; and the possibility of economical utilization of the waste for domestic production of rough cardboard or insulation material for the building trade, and other potential by-products may be well worth while exploring. Palm-leaf and coconut fibres could also be industrially utilized.

Attractive light hats of the Panama type are made by hand in Haiti. Their quality could be further improved and standardized and the production expanded.

Essential oils

The production of these high-value, volatile oils—extracted from vetiver, amyris, lemon grass, citronella, petit grain, sweet basil, neroli, various citrus fruits, etc.—is capable of considerable expansion, provided the price situation on the export markets does not deteriorate substantially.



Newly cleaned sisal fibre being spread for drying. Sisal production has made an important contribution to Haitian economy in recent years.

Local industry. Braiding sisal rope for use in binding bales of sisal fibre for shipment.

Products from wood

By appropriate reforestation of wastefully, if not destructively, exploited former forest areas suited for timber growing, and by proper rationalization of the methods of exploitation of the limited forest resources that still remain, a basis can be provided for development of various industrial activities associated with the lumbering and sawing of timber. Investigation may be made of the possibility of bringing about at the *Forêt des Pins* a small forest industry combine including, in addition to a modernized saw-mill with drying kilns, installations for prefabrication of simple houses, for plywood manufacture, for fabrication of crates and barrels, and for utilizing "thinning" wood and waste from lumbering and sawing in charcoal making, distillation of turpentine and rosin, making of wood compounds, plastics, etc. Advice on this point may be sought from the Forestry Division of FAO.

The excellent Haitian pine appears well suited for furniture, in the making of even the simplest kinds of which precious mahogany is now largely wasted. Increased use could also be made of bamboo in furniture-making and in construction.

Rough wrapping paper and cardboard could, without heavy capital investment, be manufactured from agricultural waste, such as rice trash, sugar wastes, and (as already suggested above) sisal waste.

Tanning and leather manufacture

With the development of livestock rearing recommended elsewhere in this report, hides and skins would become available to provide a basis for profitable expansion and modernization of the now almost obsolete tanning industry. Mangrove and divi-divi growing locally provide material for the preparation of tanning extracts. The production of leather is not likely ever to become large enough to permit of export; but there is a great domestic need for leather footwear, and potential demand also for leather for harnesses, etc.

Sundry industrial products

No attempt will here be made to give an exhaustive enumeration of all the minor products of agricultural and fishery origin which may offer some possibility of industrial development on a small scale. As examples of such products mention may be made, however, of shark skins and oils, tortoise shell (actually exploited to some extent in handicraft manufacture), mother-of-pearl and bone buttons, wood carving, vegetable glue and waxes.

2. Mineral Resources

Haiti is not a "mineral-minded" country: few Haitians have specific knowledge of techniques and practices of surveying and mining. With the assistance of foreign technicians certain limited areas have been explored in search of specific minerals, such as bauxite, but there has been no profound and systematic investigation of the mineral resources of the country as a whole. Such surveys as have been made have not been complete, and therefore, while affording indications of value, are not entirely conclusive. However, the Mission does not recommend the institution, at the Government's expense, of a complete mineralogical-geological survey, which would be a costly undertaking. Instead we recommend that those interested in obtaining private concessions be encouraged and given facilities for carrying out surveys.

Additional knowledge of the mineral resources may well be obtained at little extra expense as a by-product of triangulation work and land surveys referred to elsewhere in this report.

As a matter of exploitation policy it is advisable to concentrate the resource utilization effort on those resources which offer prospects of profitable yield in the near future. In the case of minerals extracted for export (e.g. bauxite) it is in the obvious interest of the country that such processing as can be readily undertaken prior to export be so undertaken.

(a) *Construction Materials*

The economically most important among the non-metallic minerals to be found in Haiti are those that lend themselves to industrial transformation into construction materials.

Haiti seems to possess good raw materials for lime and cement manufacture. At the present time there are no cement factories. Lime is being produced in scattered, small, old-fashioned kilns, wasteful from the point of view of quality of the product and of the thermic efficiency of the operation. It is recommended that a number of medium-sized units be established at appropriate points for the production of lime, together with full utilization of chemical by-products, especially of carbon dioxide (which can be used for refrigeration). In addition, there is room for establishing many small-scale lime production units in the rural districts. The possibility of making them integrated units combining small wood gasification plants with the lime kilns should be investigated. In such integrated units, technically advanced, yet comparatively inexpensive and simple to operate, it would be possible to combine production of lime for construction and even for fertilizers with the burning of charcoal in a manner which, by permitting considerable economy in the use of wood, would tax the

Lime kiln near Port-au-Prince. Operators in this vicinity, using crude methods, have acquired considerable skill in making lime.

Haitian forest resources far less than is now the case and, indeed, be of help in the rational management of these resources.

Cement is being imported into Haiti at a rate approximating, lately, 15,000 to 20,000 tons a year. The possibilities and relative merits of starting a fairly small-size cement factory in Haiti have been discussed for many years past. It is now held certain that the local deposits of minerals required for cement production are adequate to sustain a medium-size plant. Provided a suitable location is selected for the industry and that rational utilization of the available raw materials is secured by application of appropriate technological processes, the establishment of a cement manufacturing plant with a capacity of about 30,000 tons a year would be advisable. The level of consumption mentioned previously is below that capacity, but the prospective expansion of general building and construction

activities, including road improvement and various development works, would fully justify a plant with an initial capacity higher than the present consumption. The higher unit cost involved in subcapacity initial output would be more than offset by the relative cost advantage of locally produced cement *vis-à-vis* imported cement, approximately one-third of the price of which is made up of freight and associated expenses for the transport between continental ports and Port-au-Prince.

There are some brick factories in Haiti very few of which turn out a satisfactory, standardized product. There seems to be ample room for expansion of the output through modernization of the manufacturing methods with resulting qualitative improvement of the product.

(b) *Metallic Minerals*

The most important metallic mineral available in Haiti is bauxite, of which several deposits have been located and surveyed, the largest of them at Sainte-Croix (in the vicinity of Miragoâne). This deposit is estimated to hold an exploitable volume of approximately ten to twelve million tons in terms of pure bauxite, with an aluminium content of 48-52 per cent. Over half the existing 12,000 acres of mineral land would lend itself to extensive exploitation by mechanical means, wherever the thickness of the deposits is over 180 centimetres. Some layers have shown a thickness up to 20 metres, but many others are thin and will have to be worked by hand. The major apparent drawback confronting the initial development of the Haitian bauxite deposits was the fact that its physical characteristics differed from those of the bauxites commonly used for aluminium production. A new process had therefore to be devised for converting the Haitian product into alumina.[1] Recent experiments carried out by the Reynolds Metal Company, the concessionary for bauxite in Haiti, have shown, however, that this initial difficulty has been overcome.

There is only a short haul between the Sainte-Croix deposits and the deep-sea harbour where the bauxite can be loaded directly on ocean-going ships.[2] It is contemplated that the bauxite mined will be crushed and dried *in situ* and then exported to the United States. Further processing of the bauxite for conversion into alumina would require ready access to cheap electrical energy in moderate amount (which could be brought about, since prospective hydro-power sites exist close to the bauxite deposits). Another condition would be the removal of the high custom duty now levied on any

[1] Bauxite deposits in Jamaica have the same physical characteristics as those found in Haiti.

[2] Thus, the procedure required in the Guianas of intermediate loading on shallow barges can be eliminated.

aluminium mineral in an advanced stage of processing imported into the United States. The possibility of manufacturing bauxite kaolin refractory blocks for lining glass-making tanks may be explored. Only two factories for such production exist at present, one in the United States and the other in France.[1]

There are in Haiti some small manganese and copper deposits, which do not seem to be of any considerable commercial interest. The only region where the deposits of these minerals may offer such interest and where some geological and mineral surveying and actual exploitation on a minor scale have taken place in the past, is the region of Terre Neuve-Morne Macaque, near Gonaïves.

(c) *Other Minerals*

Among these the utilization of salt must be mentioned in the first place. The need for radical amelioration of the local salt, with a view to improving the quality of the processed fish supplied to the market, is stressed elsewhere in this report.[2] The refined salt could be used for electrolysis to produce materials essential for the manufacture of such articles as soap and glass (sodium hydroxide).

It would appear highly desirable that spot surveying be undertaken to determine whether quartziferous sand or quartz are locally available in sizable amounts—a prerequisite for glass manufacture. There are suitable clay deposits for production of earthenware and ceramics (house utensils, tiles, piping), but much more advanced techniques will have to be introduced.

The impoverished soil of Haiti could absorb—with great benefit—larger quantities of fertilizers of different kinds, varying according to the basic nature of the soil and according to the crops grown. No phosphate rocks would appear to exist in Haiti, and the production of ammonia does not seem feasible for reasons both of the very costly installations required for such production and of the heavy consumption of electricity that would be involved. But lime for use in agriculture could be prepared locally, and import of highly concentrated fertilizers to be processed for consumption in Haiti is recommended. Examination of the possibility of utilizing bone, seaweeds and natural compost for local preparation of fertilizers is also recommended.

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[1] See *Industrial Development Report*—Third West Indian Conference, Guadeloupe, F.W.I., December 1948, page 173.

[2] See chapter on Fisheries, recommendation 8, and appendix 1, Observations on Salt and Fish Salting.

3. Fuel and Power Resources

Haiti is not overly well endowed with natural sources for the production of energy. There are no known deposits of coal, and the prospecting for oil would appear not to have revealed so far any worthwhile deposit. Hydro-electric energy is produced in very limited amounts. In these circumstances, and in view of the high price of the imported mineral oils,[1] Haiti has had to depend for fuel almost exclusively on its forest resources, which have as a result been very largely depleted. The usual way in which Haitian peasants and small producers burn their wood in making charcoal or otherwise is wasteful and contrary to good conservation practices. Cheap and abundant electric energy is an important requisite for economic and industrial development. It is true that the introduction in Haiti of industries that are heavy consumers of electric energy is not envisaged in the foreseeable future. At the same time, there are certain chemical or mining industries which could be established if electricity were available at a reasonable cost. Furthermore, with the increased utilization of sub-surface water for irrigation purposes recommended elsewhere in this report with reference to agricultural development projects, electricity will be needed to an increasing extent for pumping such water. In fact, more than half of the total energy produced in the future in Haiti may well be needed for this purpose alone. It must also be borne in mind that modern technology, recommended for application in the industrial development of the country, relies largely on the use of electricity as motive power.

(a) *Hydro-electric Energy*

Partial surveys of the hydro-electric resources have been made on different occasions in the past and have yielded a limited, though in some instances fairly precise knowledge of the potential power of individual resources, the probable cost, and the possibilities of utilization of the energy that could be produced. It is recommended that a complete survey covering the country as a whole be undertaken, to include, also, studies of rainfall, water flow, etc. The following considerations should be kept in mind in conducting this survey:

(1) The possibilities of multiple utilization of the water supply, e.g., for purposes of irrigation, beside power generation, should receive due attention;

(2) The utilization of the variously located electric power resources should be co-ordinated in comprehensive regional systems or grids, which

[1] In spite of the fact that Haiti is within one of the world's largest oil producing and trading areas, the prices charged for fuel oil in the local market are high, largely as a result, it would appear, of heavy taxes, amounting in some instances to as much as 100 per cent of the import price.

might ultimately be linked up for the whole country, so that maximum advantage can be taken of available capacity for energy production, especially during the periods of rainfall, which vary as between different regions.

The hydro-electric sites are not very numerous. Most of them are quite small, with a potential capacity of only 1,000 kilowatts or even less.[1] Thus, the harnessing of the river potential becomes disproportionately expensive, making it almost mandatory to combine the small scattered resources into larger systems. There is no abundance of surface water in Haiti; therefore strict economy in the use of the available water supply is called for with reference to any individual project. That is why the irrigation possibilities of each hydro-electric project should be carefully taken advantage of by impounding water up-stream and/or by devoting part of the generated energy to the pumping of underground water for irrigation purposes.

Complete statistics on the electrical capacity and production of energy are not available in Haiti. The data furnished to the Mission indicate, however, that the total capacity of the generating plants operated at present —mainly by use of diesel oil—in public utilities and private industries taken together amounts to approximately 10,000 kilowatts, almost entirely concentrated in and around Port-au-Prince. By putting to use those hydraulic resources that may be developed to most immediate advantage and without disproportionate capital outlay, this capacity could be doubled. It would be enlarged further, possibly in quite substantial degree, by utilization of local lignite for electric energy production, provided such a venture, considered in more detail below, should prove feasible and economically advantageous in comparison with the use of imported fuel for the purpose. Wind power may also be used for generation of electric energy (see relevant section below).

In considering the possibility of making use of the hydro-electric resources much cautious judgment has to be exercised. It would be unwise to engage in heavy spending on the development of hydro-power before a careful over-all appraisal has been made of the possibilities, the appropriate methods of utilization, and the amount of investments needed in the whole field of energy resource development in Haiti, and before the various alternative or complementary solutions have been weighed and considered, taking into account the size of the potential demand, its distribution and seasonal variations. This appraisal should supplement the comprehensive survey of hydro-electric sites which has been recommended above.

[1] The potential hydro-electric power of the country ranges from 12,000 to 15,000 kilowatts in the aggregate.

(b) *Lignites*

The potentially largest deposits of lignite would seem to be those situated in the northwest of the Central Plateau near Maissade, and the next largest those located at Camp Perrin near Les Cayes. Both of these deposits deserve careful consideration. Neither has been sufficiently examined to date, but some mapping has been conducted and analyses of outcrop samples carried out which can usefully guide further investigations on the spot. The geological evidence is not conclusive, but chemical analyses and calorific-value measurements have been made of a few samples with promising results, notwithstanding the presence of a negative factor in the form of high sulphur content. Especially in the case of the Maissade deposits, poor transportation must be mentioned as a serious obstacle to utilization of the lignite outside the deposit area.

Modern technology has devised several methods for making adequate and economic use of such low-grade coals with high water and ash content and low calorific value; but the deposits must be large enough and the product mined should be sufficiently uniform to justify the industrial operations needed for making the lignites usable. Although some similar lignites have been used as mined, without further processing, the high water content with consequent low thermic efficiency prevents their wide-spread industrial use. The high sulphur content of the samples of the Haitian lignite so far analysed may, if proved to be consistent throughout the deposits, present utilization difficulties.

Experience in the United States, in Germany and Czechoslovakia, and in Australia, would support the possibility of low-cost drying and processing of the Haitian lignites to eliminate moisture. They may be utilized in pulverized form for power generation, cement making, and, in general, in industrial furnaces. It would seem advisable, furthermore, to subject the lignite to controlled carbonization with subsequent bricketing of the char and utilization of important by-products, such as fuel gas.[1]

The Mission recommends that a thorough geological-mineral survey of the lignite deposits be undertaken forthwith to ascertain the number, thickness, and accessibility of the seams, the extent and tonnage of the deposits, and the best methods for mining and subsequent industrial processing of the lignite up to and including partial or total utilization of the deposits at Maissade for generation of electric power in a central thermo-electrical station established on the spot. The quality of the lignites and the characteristics of possible markets should be studied carefully to

[1] The high sulphur content seems to make the Haitian lignite unsuitable for complete gasification.

determine in what form the lignites may be best utilized for production of energy or otherwise.

(c) *Lumber and Charcoal*

Haiti's needs for both industrial and domestic fuel are now met chiefly through wasteful, indiscriminate burning of wood. It is impossible to evaluate in any precise manner even the approximate amount of wood that thus goes to waste. It is imperative that the ruinous practice of charcoal making which is commonly adhered to in the Haitian countryside and which contributes to the appalling deforestation and resulting soil erosion should be changed in harmony with the rational reforestation and conservation policy recommended elsewhere in this report.

There are cheap, simple, and efficient methods for converting wood and woodwaste into charcoal, together with several valuable by-products. In discussing the development of rural industries for production of construction materials we have suggested the combination of charcoal burning with lime production in small integrated units. Other combinations, e.g., the

Charcoal market in Port-au-Prince. Making charcoal is an important local industry. Methods are wasteful and frequently are a severe drain on the forest cover.

integration of small gasogene plants with such modest industries of importance for rural living as pottery kilns and small bakeries, are also worth considering. Study should be made to determine the most appropriate types of gasification and carbonization units, as well as the best locations for such units throughout the country.

(d) *Wind Power*

The possibility of converting the energy of the prevailing winds into power should be given special consideration. In many countries wind is utilized by means of inexpensive installations for direct pumping of water or for performing industrial operations which do not require continuous supply of energy. Where this is called for, small electrical generators can be attached to the wind wheels. Such units have been devised and exist in the market. The installations for utilization of the wind power have proved successful and inexpensive in use, can be widely distributed, and are simple to operate.

Systematic assembly, preparation, and recording of meteorological data and installation of experimental wind utilization units in different parts of the country, with a view to selection of the most appropriate types for use in Haiti, are recommended.

4. Small-scale Engineering and Repairs

There are obviously no prospects for large-scale mechanical industries in Haiti; but there is room and need for a variety of small-scale engineering and repair shops which may prove profitable provided they are efficiently organized, equipped with good machinery, and managed with requisite technical skill. The assistance of technicians with experience in the operation of such enterprises in economically more developed countries should be of value, especially in the early stages of development of these activities, comprising, for example: automobile repairs and repairs of motors and machines of other kinds; operation of jobbing foundries, preferably integrated with machine shops; manufacture—by means of simple lathe operations or small presses—of sundry metal goods such as dishes, bowls and other articles for household use, etc.

5. Handicrafts

In the last few years a marked expansion of Haitian handicraft industry (occupying, according to reliable estimates, up to 50,000 persons) has taken place. The goods produced include: furniture, trays, bowls, ashtrays, boxes, carvings, etc., of mahogany; sisal handbags, slippers and rugs; articles of coconut braid, straw (e.g. hats), and the like, and of tortoise shell; and various embroideries, etc.

Rural blacksmith shop with simple equipment for sharpening tools and making repairs.

Seamstress at work near public market. Machines are frequently set up along well-travelled roads for custom work.

Except in a few shops using machines, the work is done by hand, either by workers assembled in a shop, or at piece rates, at home. In order to maintain, develop, and strengthen the handicraft industry to withstand the renewed competition from traditional sources of supply, some of which were cut out during the war, it is necessary that new uses for the materials it employs should be studied; that training be encouraged; that the quality both of its raw materials and of its finished products be carefully supervised; that more imagination be displayed in the creation of new and better articles; that increased use be made of machinery and mechanized tools; and that guidance be given in the home production.

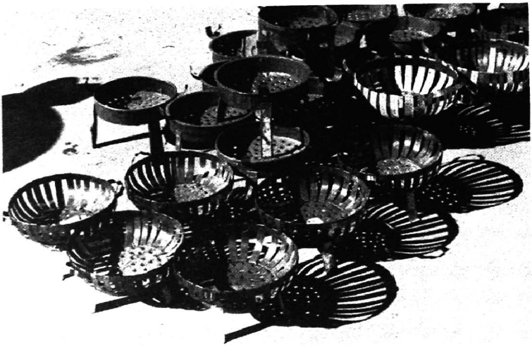
It would be a mistake, however, to place too heavy emphasis on expansion of the handicrafts at the expense of development of the manufacturing industry proper. The mentality to be primarily encouraged in the interest of the economic development of the country is the one which thrives in industrial pursuit.

Field agents operating from an industrial research centre as their base could help greatly in promoting both the rural industries and handicraft activities, more especially in conjunction with the community development projects recommended in those chapters of this report which are concerned with agricultural development and rural welfare and with fundamental education.

C. ORGANIZATIONAL MEASURES

1. General Organization

The promotion of industrial activities on the lines suggested above should be duly integrated with the development efforts in the other sectors of the national economy. To achieve a properly balanced economic development unified planning and continuous guidance and over-all supervision by a central agency are required. In the introduction to this report the institution of an advisory National Resources and Development Board with a technical secretariat holding a central position in the Government administration is recommended for the purpose. As is emphasized in the observations accompanying this recommendation, the Board would be primarily concerned with the policy aspects of the national development endeavour, and with the formulation of the relevant action programmes, while the executive functions should naturally be vested with the specific administrative organs of the Government, whose supreme heads form the Council of Secretaries of State. That part of the administrative machinery most directly concerned with the execution of industrial development programmes needs thorough structural reorganization to cope efficiently with this task.



Locally made charcoal burners offered for sale in the market.

Boy selling tin cups made from cans. Typical of rural utensils.

This important task is now a secondary attribution in part of the Ministry of Finance and National Economy and in part of the Ministry of Commerce. The allocation of relevant functions to the two ministries is ill-defined and neither of the two is appropriately staffed for this particular task, which has, as it were, "fallen between two stools". Furthermore, certain matters pertaining to industrial development are dealt with in the Ministry of Public Works. Industry matters would undoubtedly be more effectively attended to if the National Economy divisions now subordinated to the Secretary of State for Finance were to be joined with the so far little developed Commerce Department into a single, strengthened and appropriately organized Ministry of Trade and National Economy, to which might be transferred, in addition, those sections of the Public Works Department which deal with matters that essentially concern industry, e.g., the Bureau of Mines and the Electric Energy Section.

Without attempting here any detailed blue-print of internal organization, it is suggested that the Secretary of State in charge of the proposed Ministry of Trade and National Economy be assisted by two Under-Secretaries of State, one for Trade, internal and external, and one for Industry. The industrial development services under the command of the latter should comprise from the outset three main substantive branches for handling matters concerned with Mining and Manufacturing Industries, Power Generation and Fuel, Rural Small-scale Industries and Handicraft. There should also be a central division or bureau entrusted with the handling of Concession matters, with the keeping of a detailed Register of Establishments to cover all operating industrial and commercial enterprises, and with supervision of the implementation of the industrial development legislation.

In due course this administrative machinery may be supplemented by a Technical Research and Information Centre connected with the department roughly sketched above. It is recommended that field agents be attached to the Research Centre for undertaking industrial extension work especially in the rural areas.

2. Industrial Statistics

Comprehensive and accurate statistics are needed for intelligent economic development planning in requisite detail and for the efficient execution of the plans laid down. No organized industrial statistics of any kind now exist in Haiti. It is important—indeed an urgent necessity—that such statistics be regularly compiled and published to show in the first instance the production, by volume and value, of raw materials and of processed products (whether semi-manufactures or finished articles),

energy generated, installed machine power, number and sex of workers, man-hours worked, wages and payrolls, capital invested (if possible with distinction between foreign and domestic capital), and in course of time costs of production, net value, recorded profits and dividends. Recording of the external trade statistics on the basis of modern economic classification standards is called for. Industrial development planning will benefit also from the improvement and rendering available of other kinds of statistics under the reform of the system of statistics as a whole recommended in the introduction to this report.

Technical assistance should be sought for organizing the industrial statistics, regardless of whether they are ultimately entrusted to a special service within the Department of Trade and National Economy or to the central statistical administration which may be built up around the Population Census Bureau, of which an embryo is already in existence.

3. Industrial Promotion and its Co-ordination with Agricultural Development Efforts

The creation of a single over-all industrial development corporation such as has been established with substantial Government capital participation in certain other Latin-American countries, is not recommended for Haiti, in view of the relative paucity of industrial and power resources which renders the sinking of Government capital in such a large-scale undertaking inadvisable. This, of course, should not be understood to preclude the undertaking of large-scale manufacture of cigarettes and other tobacco products by the *Regie du Tabac,* which may well prove quite profitable. Eminently justified also, and for obvious reasons, is the sinking of Government funds—whether acquired at home or obtained through external borrowing—in the utilization of electric power resources for the benefit of the development of both agriculture and industry, and indeed of the Haitian economy as a whole. The launching of any other large-scale industrial enterprises (if at all realizable) had better be left to private initiative and risk, while minority participation by the State in such ventures must not necessarily be excluded.

For public sponsorship smaller-scale industrial ventures, intimately linked up with and, where feasible, even forming a constituent part of specific agricultural development projects, would seem preferable. The importance of promoting rural industrial and handicraft activities in conjunction with comprehensive community development schemes has already been stressed above. A variety of simple production implements and household goods, for which there is great need in the Haitian countryside, can in this way be readily provided to the rural population through

modest capital investment, to assist concerted efforts on their part to make appropriate use of the means at their command for bettering their conditions of life.

4. Legislation for Industrial Development

Laws and regulations bearing on the establishment and operation of industrial enterprises, on internal and external trade in their products and raw materials, on their taxation, and so on, obviously affect the development of industry. Review should be made of the legislation in force, and legal practices should be examined with a view to determining in what respects and on what points adjustments and ameliorations would be required for removing obstacles to and providing encouragement for industrial development on the lines suggested in this report.

As a means of fostering the healthy development of industrial activities in support of their economic advancement many countries in Latin America have laid down in a general law the principles which should govern their industrial development policy. While necessarily varying in detail, these policy guides have certain basic concepts in common, e.g., encouragement should be given in the first instance to industries processing domestic raw materials and especially those which are capable of providing ample employment opportunities as well as incentive to producers of primary goods; tariff protection alone does not suffice for developing permanent and sound industries, nor is it the best means for the purpose.

The other means of encouragement foreseen in these general laws for industrial development may be grouped under four broad headings as follows:

Alleviations

Exemption from import duties on essential equipment and materials not produced in the country.

Partial and graduated exemption from income tax, licence fees, etc., during an initial period.

Tax exemptions for reinvested earnings.

Lowering and suppression of export taxes.

Assistance

Granting of "drawback".

Securing of special advantages for the products of infant industries in concluding trade agreements with foreign countries.

Temporary subsidies.

Capital participation.

Guarantee for loans or credits.

Granting of exclusive concessions (in exceptional circumstances) for an initial period.

Priorities of procurement or allocation of materials and equipment.

Facilities

Providing of adequate institutions or organizations for industrial credit (medium-term and long-term), technical assistance (research and advice), general services (statistics, market surveys, etc.).

Co-operative organization

Sponsoring of industrial co-operatives.

A study in detail of the general laws here referred to and of their implementation in actual practice would be of value for the revision to be made of the corresponding legislation in Haiti.

D. INDUSTRIAL RESEARCH AND TECHNICAL TRAINING

The creation in due course of a Technical Research and Information Centre to explore the best uses of Haitian raw materials and to promote the knowledge and use of production techniques essential for modernizing and developing industry in Haiti has been proposed above as an adjunct to the Ministry of Trade and National Economy. It could be also designed to undertake cost analyses, market studies, etc., and to serve as a clearing house for technical assistance from abroad.

Advantage should be taken to the greatest extent possible of the research facilities already available in the Caribbean area. Well endowed industrial research centres exist close at hand, in Puerto Rico and in Jamaica, where experience has been gained that could be put to good use in Haiti. The experimentation with local materials at the Haitian research centre may well be advanced ultimately to the stage of setting up pilot plants, once adequate equipment and thoroughly trained technicians have been acquired for the purpose. But it would obviously be wasteful to duplicate in Haiti research and experiments in process or already made with similar if not identical material elsewhere. The activities of the Haitian centre can therefore—at any rate to begin with—be largely confined to investigation of what has been achieved or is on the way to being achieved elsewhere in technical research and experimentation of direct interest to Haitian industrial development, and to making the information thus obtained available to all concerned in Haiti. While the initial cost of a

technical information agency of this nature need not be very high, the centre should be sufficiently endowed from the outset to be able to initiate and maintain continuous, active communication with other centres of industrial research, not only in the Caribbean area, but also in technically more advanced countries outside this region. The possibility of strengthening this contact by means of fellowships, foreign (including international) as well as Haitian, granted to advanced technical research workers or to technicians with solid experience of Haitian industrial problems and conditions, should be explored.

For the further development of the technical research centre beyond the initial stage here considered, and especially to ensure its ample provision with needed equipment and with pilot plants, it is to be hoped that contributions in cash or in kind will be forthcoming from Haitian industry itself, benefiting in the first instance from the extension of research activities that would thereby be rendered possible.

The problems of vocational education and industrial training are dealt with at some length in part I, chapter II of the present report. It is not necessary to restate here the observations and recommendations there made. The advisability of undertaking at an early date the proposed occupational survey to provide a basis for appropriate planning of the vocational training should be stressed, however, as should also the need for transforming the J. B. Damier school into a purely vocational school and for providing it with adequate tools and modern equipment.

The possibilities for developing skills through supervised on-the-job training of workers in the existing industries should be fully utilized; the active co-operation of the industrial enterprises should be sought to that end. As part of such practical industrial education programmes apprenticeship training of young workers can be effectively arranged.

As an extension of the technical research centre, when established, field agents attached to it should be provided to assist and guide the small industrial operators and craftsmen with the technical advice they need for efficient pursuit of their trade.

E. TARIFF, FISCAL-POLICY AND CREDIT-ORGANIZATION ASPECTS OF INDUSTRIAL DEVELOPMENT PROMOTION IN HAITI

Designed primarily for revenue purposes, the customs tariff of Haiti takes little account of industrial development potentialities, needs, and desiderata.

In previous sections of the present chapter attention has been drawn to the fact that a variety of simple manufactured articles now imported in finished form could with considerable economic advantage be manu-

factured in Haiti from imported materials. Yet, in many instances the relevant materials are actually subjected to relatively higher import duties than are the manufactured articles in question. An adjustment of the tariff on such points would obviously be of interest for the promotion of manufacturing activities. Similarly the processing in Haiti of locally produced raw materials could be encouraged by improving the customs protection of the processed products.

The customs tariff at present in force dates from 1926 and has remained essentially unchanged throughout the period of its existence, during which great changes have taken place in international commercial relations. On such grounds as those exemplified above with reference to particular industrial development considerations, and for many other reasons on which we need not dwell here, a thorough review and examination of the whole structure of the Haitian customs tariff is called for. The Mission recommends that measures be taken forthwith for instituting such an examination with a view to structural revision of the tariff to render it concordant with economic development aims.[1] In this revision care should be taken to avoid bestowing favours on any one industry that might be detrimental to another industry or to wholesome economic activities in other fields. In according to new industrial activities fiscal alleviations for longer or shorter initial periods for the purpose of fostering the development of such activities, it is advisable not to concede too generous tax exemptions. It should be kept in mind that industries must not be created, as it were, for industry's own sake, but only when there is reasonable prospect for such fostered activities to become economically successful and capable of contributing to the economic advancement of the country and to the betterment of the lot of the people.

There is domestic capital available in Haiti, though not in great amount. Commerce, private lending—largely for consumption purposes, and often at usury rates—and investment in real estate are the traditional channels for its employment. Lack of confidence in new ventures and mutual distrust among capital owners have deterred them generally from risking their funds in industrial enterprise. The initiation of a well-balanced policy for the promotion of healthy industrial development may well be expected to inspire confidence in sufficient degree to induce an ampler flow of local capital into industrial investment channels than has taken place in the past.

Limited capital participation by the Government in small-scale industrial ventures forming part of composite development projects of the kind recommended in the chapter on Agricultural Development and Rural

[1] Cf. page 309 and footnote.

Welfare with reference to the building up of comprehensive community centres, may well serve to strengthen the faith in industrial pursuits on the part of small capital owners. The most effective support that the Government could lend to the development—on a co-operative basis or otherwise—of small-scale industry, however, would be to help in the creation of the agency for medium and long-term industrial (and agricultural) credits recommended in the chapter on Credit Organization.

F. SUMMARY OF RECOMMENDATIONS ON INDUSTRIAL DEVELOPMENT

It may be expedient to recapitulate briefly the principal recommendations made in the various sections of this chapter.

The Mission recommends that:

As concerns the *utilization of raw material resources:*

1. The possibilities for advancing the domestic industrial processing of such agricultural products as sugar, vegetable oil materials, cocoa and fruits, milk, tobacco, cotton and coarse fibres be explored in the directions suggested on pages 173-178;

2. Investigation be made, with expert assistance that may be sought from the Forestry Division of FAO, of the possibility of bringing about at the *Forêt des Pins* a small forest industry combine (page 178);

3. The carrying out of mineral resource surveys by those interested in obtaining private concessions be encouraged and facilitated (page 179);

4. A number of medium-sized units for rationalized production of lime with full utilization of chemical by-products be established at appropriate points and integrated as far as possible with small wood gasification plants (page 179);

5. The establishment of a cement manufacturing plant with a productive capacity of, say, 30,000 tons per year to meet prospective domestic demand for cement for building and construction activities, including road improvement and other development works, be encouraged (page 180);

6. Spot surveying be undertaken to determine the availability of quartziferous sand or quartz for glass manufacture (page 182).

As concerns *fuel and power resources:*

7. A thorough geological-mineral survey of the lignite deposits be made forthwith, together with investigation of the best methods for mining and subsequent industrial processing of the lignite, including partial or total utilization of the deposits at Maissade for generation of electric power in a central thermo-electrical station established on the spot (page 185);

8. A complete survey covering the country as a whole be undertaken of potential hydro-electric resources, this survey to include, also, studies of rainfall, water flow, etc., and to take into consideration the possibilities of:

(*a*) Multiple utilization of the water supply, e.g., for purposes of irrigation, beside power generation;

(*b*) Co-ordination of the utilization of the variously located electric power resources in comprehensive regional grids that might ultimately be linked up for the country as a whole (pages 183-184);

9. Consideration be given to the possibility of converting the energy of prevailing winds into power; that systematic assembly, preparation and recording of meteorological data be undertaken for the purpose and experimental wind-utilization units be installed in different parts of the country with a view to selection of the most appropriate types for use in Haiti (page 187);

As concerns *small-scale engineering, repairs and handicrafts:*

10. Instruction and guidance in the organization of such enterprises and activities, more especially in conjunction with community development projects, and in the use of production methods and materials, acquisition of equipment, improvement of the quality and appearance of the finished products, etc., be provided by trained field agents (page 187).

As concerns *organizational measures:*

11. Consideration be given to the possibility of strengthening the administrative machinery most directly concerned with the execution of industrial development programmes by:

(*a*) Joining the National Economy divisions, now subordinated to the Secretary of State for Finance, with the Commerce Department into a single, appropriately organized Ministry of Trade and National Economy;

(*b*) Transferring to that Ministry those sections of the Public Works Department which deal with matters that essentially concern industry, e.g., the Bureau of Mines and the Electric Energy section (pages 189-191).

As concerns *statistics:*

12. Provision be made for the organization, collection and publication of adequate industrial and related foreign trade statistics (pages 191-192) in connexion with the amplification and reform of the system of statistics as a whole envisaged in the introduction, general recommendation VI.

As concerns *legislation for industrial development:*

13. The legislation in force be reviewed and legal practices be examined with a view to determining in what respects and on what points adjust-

ments and ameliorations are required for removing obstacles to and providing encouragement for indusrial development (pages 193-194).[1]

As concerns *industrial research and technical training:*

14. A Technical Research and Information Centre be established in due course as an adjunct to the remodelled Ministry of Trade and National Economy (envisaged in recommendation 11 above) to explore the best uses of Haitian raw materials, to promote the knowledge and use of production techniques essential for modernizing and developing industry in Haiti, and to serve as a base for the industrial field agents (pages 194-195);

15. Advanced technical research workers and technicians with solid experience of Haitian industrial problems be given the opportunity of profiting from fellowships, foreign (including those provided by the United Nations and other international bodies) as well as Haitian, for technical study and training abroad (page 195);

16. The possibilities for developing skills through supervised on-the-job training of workers in Haitian industries be fully utilized in active co-operation with existing industrial enterprises (page 195).

With reference to *tariff matters:*

17. A thorough examination of the structure of the Haitian customs tariff be undertaken with a view to necessary reform to render it concordant with economic development aims (page 196).[2] Expert help in such reform may be provided by the United Nations through its machinery for technical assistance for economic development.

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[1] According to information received in June 1949, a draft law of this nature has been prepared by the Fiscal Department of the National Bank in collaboration with the Internal Revenue Service at the request of the Department of Finance, and has been submitted to the Legislature for consideration.

[2] Cf. footnote on page 309 regarding the Tariff Committee set up in the early months of 1949.

CHAPTER IV

Transport, Trade, and Foreign Investment

A. TRANSPORT AND COMMUNICATIONS

1. STRUCTURE AND CHARACTERISTICS

"Communications are obviously important for a nation's moral progress and material development. Roads are a help to production and . . . are indispensable for the transport and distribution of goods. By encouraging travel in the interior they allow the elements of civilization to infiltrate by degrees into the countryside, rendering the man of the soil more sociable, polishing his manners and habits, and refining his tastes.

"The lack of good road communications across the whole Republic has proved the most serious obstacle to the progress of public education in the countryside and to the diffusion of religion among the rural population, and has raised an even more formidable barrier to the economic development of the country.

"The creation or amelioration of national roads involved great difficulties, technical on account of the mountainous nature of the island and the patterns of rainfall, financial on account of the considerable expenditures that works of such scope require. Moreover, to complete the network, the construction of a host of regional roads, by-roads and mountain trails had necessarily to be taken into account."

Local boats delivering sugar-cane to factory near Cabaret.

Woman on her way to market with well-laden pony pauses to sell "clairin" to workman.

This description of the Haitian road transport problem of over ten years ago[1] largely holds good today, despite considerable efforts devoted to expansion of the road system.

While the first vehicle road across the island from Port-au-Prince to Cap-Haitien had been opened up as far back as 1787, the development of the national road system proceeded very slowly for more than a century. The road problem received more active attention from 1915 onwards. By 1929 the country had some 1,000 miles of roads reportedly practicable by motor vehicles (of which there were some 3,000 in Haiti at that time) for some part of the year. But there were and still are very few bridges across rivers and streams, fords being generally used, which means that since water-courses are impassable after rains, traffic must wait until the floods subside.

Today the road system comprises, according to official reports, about 1,700 miles, of which 465 miles are "national roads" and some 1,235 miles "departmental roads". The national roads connect the capital with the principal provincial cities, the longest being those running from Port-au-

[1] Dantès Bellegarde, *La Nation haïtienne,* Paris, 1938, page 219.

Prince to Cap-Haitien via the coastal cities of St. Marc and Gonaïves (174 miles) and via Mirebalais and Hinche in the interior (122 miles), and the road from Port-au-Prince to Les Cayes (122 miles). Only the first-mentioned of these roads is readily practicable all the way at all times. The departmental roads link smaller cities and towns with the national roads. There are only some fifty miles of asphalt road, almost exclusively around Port-au-Prince; there are also some asphalted and cement streets in the largest cities. For the rest the national roads and most of the departmental roads are surfaced with gravel and sand. There are in addition numerous shorter by-roads—most of them plain dirt roads—and mountain trails and tracks over which farm produce is brought to market, in part on burros, but chiefly carried by the peasant women on their heads.

While long hauls can generally be made most economically by sea, short-haul transport of goods and people is most effectively performed by motor vehicles. In every part of the country one meets on the road simple open

Women carrying heavy loads on head.

Rural transport. Sugar cane going to local mill where it will be made into syrup or "clairin", a local intoxicating drink.

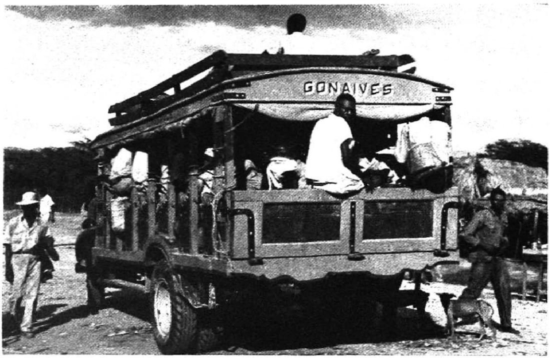
motor buses (converted trucks) heavily loaded, as a rule, with passengers and merchandise. Ordinary trucks and passenger cars are scarce; there were in all but 3,015 motor vehicles registered in Haiti in 1948.

No additions have been made for many years—and, indeed, for very good reasons—to the system of railroads, all narrow gauge, operated in several disconnected units, the construction of which was begun in the first decade of the century. The longest line is that running for some ninety miles from Port-au-Prince via St. Marc to Verrettes and Désarmes on the Artibonite River. There are two other shorter lines terminating at Cap-Haitien. In all only some 160 miles of railroad have been operated in recent years. At present only the Port-au-Prince-St. Marc line is running passenger trains—one per day in each direction—while the freight capacity of this and some of the other lines is partially used by four of the largest sugar and sisal enterprises for hauling their raw products from outlying plantations to the central plants.

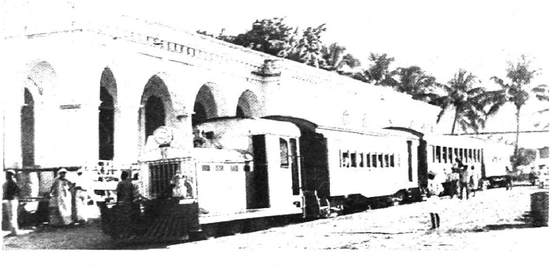
Haiti was opened up to international air traffic in 1929. Nowadays several carriers call each day at Port-au-Prince in air traffic mainly between the United States, the Caribbean and South America. Civilian air communications between Port-au-Prince and provincial centres throughout Haiti are maintained by the aeronautics branch of the Haitian Army. The Mission was impressed by the excellent spirit and manifest efficiency (within limits set by materials and equipment available) of that service, which has exhibited a remarkably good record so far. For obvious reasons, however, it is within reach of only a very small fraction of the population; and as the railways, by their very nature, are highly inelastic and not particularly well suited to a mountainous country such as Haiti, and therefore tend to become more and more obsolete, it is clear that the transport improvement so crucial for the economic advancement of the country is to be sought above all in the development of the road system and of the coastwise shipping services.

2. Improvement of the Road System

What is first needed is proper maintenance of existing roads, provision for adequate drainage, for their protection against erosion and landslides, and provision of durable bridges. To this need that of construction of additional roads should be made subordinate, except where urgently needed to save isolated regions from economic decay. Reconstruction should be undertaken of the principal roads running north from Port-au-Prince to Cap-Haitien and Port-de-Paix, westward to Les Cayes—whence the national road (No. 200) should be continued to Jérémie and Anse-d'Hainault—and eastward to Fond Parisien, Savane-Zombie and Saltrou. A direct



Most public transportation by land is by bus built on truck chassis. These buses carry passengers and freight.



Only passenger railroad, Port-au-Prince to St. Marc.

road is needed from Port-au-Prince to Jacmel and the nearby scenic beach, which holds considerable promise as a tourist attraction. A road along the Artibonite valley connecting Petite Rivière de l'Artibonite with Mirebalais might be considered, and a through road along the northern shore from Ouanaminthe and Maribaroux on the Dominican border to Môle St. Nicholas is needed. Additional feeder roads to the main network here indicated should be constructed at this stage only to give access to areas of particular economic importance or to areas where comprehensive development projects are under way or are seriously contemplated.

The principal roads should be given a permanent surface which with appropriate and unfailing maintenance would be capable of resisting the vagaries of the Haitian climate. Expert advice, drawing on experience gained in countries with similar climate, topography and soil conditions, should be sought on the choice of material to be used for such permanent surfaces. The possibility of using resistant local material together with or—on certain stretches—in place of asphalt and cement, deserves careful investigation, taking into account and weighing against each other the elements of cost involved in initial construction and subsequent maintenance of roads surfaced with one or the other kind of material in different types of terrain and on stretches subjected to different traffic loads.

Fully realizing that in a country with a topography and climate such as are found in Haiti the unit costs of road construction (or reconstruction) and maintenance are bound to be relatively high, the Mission recommends that the works be mechanized to the fullest extent, where economy can be achieved by the use of modern machinery as a substitute for labour, for, as is stressed in the industry chapter of the present report (part II, chapter III, page 171), wheer labour productivity is low, labour costs may prove very high even if the wages enjoyed by the workers are meagre. Mechanization may be envisaged especially for construction works on the national roads, which should be rapidly put in good shape, or in principle wherever the saving of time in road construction works is important. The recommendation here made is subject to qualification as regards secondary and feeder roads; but, as a general principle, in the interest of the economic development of the country road construction and repair should not be based on a "make-work" philosophy.

Early formulation of a comprehensive plan for speedy amelioration in the first instance of the existing system of national roads and departmental roads of vital importance is essential, a master plan for the country as a whole which may serve as a basis for developing road transport and communications in the national economic interest and guard against fragmentation induced by local political pressure groups. The National

Landslide on the road to Baptiste.

Resources and Development Board, the creation of which is proposed in the introduction to this report (general recommendation 1), would seem to be the appropriate authority for formulating such a plan as an integrated part of the over-all programme of economic development which it would have the task of laying down. Only within the frame of such a programme establishing priorities of investment and expenditure will it be possible to strike the proper balance between spending on road development and spending for other developmental purposes.

Community self-help and community participation and responsibility in the upkeep and indeed the building, especially of secondary and feeder roads, should be encouraged. In various parts of this report stress is laid upon the importance of strengthening rural community life by improving the organization of community services, including those concerned with the roads, by allocating to local governments certain sources of revenue now withdrawn from them and leaving them a greater latitude in the use of their revenues and in handling local affairs generally. By educational efforts it should be possible to develop with the members of the rural communities a stronger sense of social responsibility, a spirit of co-operation in joint enterprise, and pride in demonstrating the benefits accruing to the community from improvements in the means of transport and marketing. By

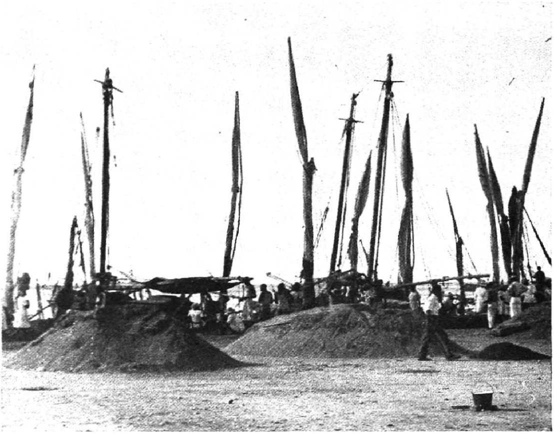
maintaining minor capital works facilitating access to town markets the peasants will in general receive more for the produce they sell and pay less for the market goods they buy.[1]

3. The Sea Transport Situation

The coastwise shipping is not rationally developed in Haiti. Services between coastal points, in relatively few cases all the way around either of the two main peninsulas up to Port-au-Prince, are provided by individual owners of small craft with no regular timetables or schedule of rates. There are about 700 boats (some 600 of less than twenty-five tons dead weight)

[1] Mention has been made above of the fact that the goods moved in the mountainous regions where there are no roads practicable by motor vehicles—indeed much the larger part of the country—are transported on donkeys or, chiefly, perhaps, by human portage. In the circumstances this may be the best way of transporting perishable freight, but transport of non-perishable freight could well be done, except on very steep and narrow ridges, in ox-carts. A light, sturdy, small ox-cart such as that used in Costa Rica in mountainous areas would be admirably suited for transporting heavy freight between mountain farms and motor roads in Haiti. Such vehicles require very little in the way of roads, while enough feed for the oxen could in most cases be got from petit-mil, sugar cane and native grasses. The use of sharp wheels which cut deep ruts and increase the rate of erosion should be avoided. Wheels fitted with tyres from stripped automobiles or trucks can stand up well to the slow pace of oxen, obviate the difficulty just mentioned, and enhance the efficiency of haulage without adding appreciably to the cost of the vehicle. As many peasants in Haiti do not have sufficient means to afford, nor sufficient volume of produce to justify individual ownership of an ox-cart or oxen, it would seem a useful idea to promote group ownership, especially since the pooling of produce and transport in this way would provide a starting point for elementary marketing co-operatives. It would have the added advantage of releasing the women from the wearing task of transporting heavy produce and enabling them to devote more time to improving living conditions in their homes.

Ox carts for hauling sugar-cane to a mill. There are relatively few such carts in Haiti. Expansion of their use should be considered.



Boats used for fishing and for coastwise transport in Port-au-Prince harbour. Adequate schedules for coast-wise shipping have not been established.

with an aggregate capacity of perhaps 10,000 to 12,000 tons. Almost all of them use sails, only about a dozen having engines of some kind. The establishment of an organized coastal small-boat transportation service providing frequent sailings at fixed dates and applying unified tariff rates is urgently needed and should be encouraged by the Government, though preferably not to take the form of a State enterprise. The organization of this service on a co-operative basis may be well worth considering.

Haiti lacks a merchant marine for foreign service; although virtually complete dependence on foreign shipping is thus involved where oversea transport and communications are concerned, it does not follow that Haiti should imitate certain other under-developed countries which are endeavouring to develop merchant marines of their own. Transportation services among countries and territories of the Caribbean region are generally not very satisfactory, however. In terms of transport costs and services Haiti is more removed from her neighbours in the West Indies than the physical distances would suggest.

So far as line services are concerned, Haiti is probably in a relatively non-competitive area. A position of this sort results in comparatively high

rates. The fact that the ships of most of the foreign lines servicing Haiti call at quite a number of ports along the very extended coastline of the country to load and unload as a rule only an insignificant tonnage of goods at each port, may well be due to the undeveloped state of the internal road transport system. These various calls, involving considerable loss of time in the aggregate, are thus costly per unit of cargo, and probably contribute to maintain the freight rates at a relatively high level. How far it would be possible by development of the coastwise shipping service—allowing concentration of loading and unloading of export and import cargo in only one or two principal ports—to bring about a reduction in the rates charged by the foreign lines may be worth investigation.

B. EXTERNAL TRADE

Haiti depends for a very large part of its national income on production for export which closely determines her capacity to import. Customs duties, chiefly levied on imports, account for the major part of the Government revenues. Hence, the amount of Government receipts available for public investment and for foreign debt service is in large measure correlated with the volume of external trade.

1. Balance of Trade

The summary given in table 5 of Haiti's external trade in each fiscal year since 1916/17 shows the close correspondence between exports and imports emphasized above. How the latter have followed the former in large swings

Farmers' market in Port-au-Prince showing variety of imported and domestic produce for sale.

during the 1920's and the 1940's is even more strikingly illustrated by the export and import value curves plotted in chart 1 covering the period 1926/27-1947/48. The value of coffee exports is plotted on the same chart.

TABLE 5

External Trade

(Fiscal years beginning 1 October)

(million gourdes)

Year	*Imports*	*Exports*	*Import (−) or Export (+) balances*
1916/17	43.0	44.7	+ 1.7
1917/18	50.9	38.7	− 12.2
1918/19	85.6	123.8	+ 38.2
1919/20	137.0	108.1	− 28.9
1920/21	59.8	33.0	− 26.8
1921/22	61.8	53.6	− 8.2
1922/23	70.8[a]	73.0	+ 2.2
1923/24	73.5[a]	70.9	− 2.6
1924/25	101.2	97.0	− 4.2
1925/26	94.3	101.2	+ 6.9
1926/27	78.8	76.5	− 2.3
1927/28	101.2	113.3	+ 12.1
1928/29	86.2	83.6	− 2.6
1929/30	64.2	70.7	+ 6.5
1930/31	47.9	44.8	− 3.1
1931/32	37.3	36.1	− 1.2
1932/33	38.3	46.7	+ 8.4
1933/34	45.7	51.5	+ 5.8
1934/35	41.2	35.6	− 5.6
1935/36	37.9	47.2	+ 9.3
1936/37	46.1	44.9	− 1.2
1937/38	38.0	34.7	− 3.3
1938/39	40.9	36.3	− 4.6
1939/40	39.7	27.0	− 12.7
1940/41	37.2	33.3	− 3.9
1941/42	42.3	42.9	+ 0.6
1942/43	49.2	53.1	+ 3.9
1943/44	80.2	80.5	+ 0.3
1944/45	65.8	85.6	+ 19.8
1945/46	79.6	114.1	+ 34.5
1946/47	136.2	156.4	+ 21.2
1947/48	161.0	154.4	− 6.6

[a] Imports in 1922/23 and 1923/24 are valued f.o.b. (in other years c.i.f.)

Chart I.—Exports and Imports, 1926-27 to 1947-48*

(in millions of gourdes; 1 gourde = $0.20 U.S.)

*Fiscal years ended 30 September.

During most of the period of Haiti's occupation by United States military forces (up to the middle of 1934) the trade balance did not show any clear tendency towards change in a positive or negative direction. In the four-year period 1932/33-1935/36 as a whole a small export surplus was realized which changed into a small import surplus in the five-year period 1936/37-1940/41, during which the terms of trade turned against Haiti principally on account of the price fall in Haitian coffee after the termination of the commercial treaty with France to which further reference is made below. In the course of these years, moreover, the bulk of the public works loan contracted in 1938 was spent.[1] From 1941/42 a persistent export surplus developed, accounted for by expanding shipments of sisal, bananas, essential oils and handicraft products, as well as rising coffee prices. The terms of

[1] See chapter VI, Problems of Public Finance, section B.3.

trade were in Haiti's favour during that period. In the fiscal year 1947/48 the value of exports suffered a slight decline—the net result of a marked reduction in banana exports and some reduction also in coffee and sugar exports, not fully offset in the aggregate by the sustained expansion in other exports. As imports continued to rise, a small import surplus developed.

There are no official estimates published of Haiti's balance of payments, and little is known of its components apart from merchandise trade. A rough computation of such relevant data as proved readily available for the two fiscal years ended 30 September 1947 and 1948 has been made, however, and is reproduced in summary form in table 6. The table should be read in the light of chart I, of the further specified data on trade and on foreign capital investments analysed below, and of other pertinent information contained in the credit organization and public finance chapters that follow. The figure shown for "errors and omissions" (item 27) in the 1946/47 column may well reflect some flight of capital believed to have occurred in consequence of the political events of 1946. The table is obviously so incomplete, however, as to call for caution in drawing any inferences from it. The insignificance of "errors and omissions" in the 1947/48 estimate cannot be credited to accuracy of computation, but is probably quite "accidental".

2. Exports and Imports by Commodities

The composition of exports in selected years is shown in table 7, both in terms of quantities and in terms of percentage shares in the total value.

The quantity figures reflect, on the one hand, a downward trend in the production of coffee over the last three decades and in raw cotton since the early 1930's, and, on the other hand, increases in the output of other products, notably sisal and bananas. Quantity figures are not given for handicraft products and essential oils, which have gained in importance in recent years, as shown by the value percentages; the value of essential oils exported declined in 1947/48, however, as compared with the previous years.

The share of coffee in exports has shrunk from roughly 70-80 per cent in the 1920's to 35 per cent by 1947/48. The expansion of a variety of other agricultural exports has reduced Haiti's dependence on the sale of one product; even so, Haiti remains heavily dependent on the export of relatively few products. Three leading crops—coffee, sisal and bananas—accounted for as much as 70 per cent of the value of exports in 1947/48; raw sugar and molasses, cacao and raw cotton accounted for another 19 per cent, and manufactures—in the form of handicraft articles, essential oils and cotton seed cake—for 7 per cent, leaving 4 per cent of sundry exports mainly of agricultural origin.

TABLE 6

Partial Balance of Payments for Haiti

Years ended 30 *September* 1947 *and* 1948

(in millions of gourdes)

Item	*1946/47*	*1947/48*
CURRENT ACCOUNT		
Debits (Imports, etc.)		
1. Cotton textiles	36.6	30.6
2. Wheat flour	12.0	18.7
3. Other foodstuffs	8.6	11.8
4. Metals and metal products	11.8	14.4
5. Automobiles, machinery, etc.	10.8	18.0
6. Chemicals, pharmaceuticals, soap, etc.	9.7	13.2
7. Other imports	46.7	54.3
8. *Total imports* (c.i.f.)	136.2	161.0
9. Interest on Government debt	2.0	0.5
10. Interest on SHADA loan	—	0.2
11. *Total listed current debts*	138.2	161.7
Credits (Exports)		
12. Coffee	60.7	53.9
13. Bananas	30.6	14.2
14. Sisal	28.4	40.6
15. Sugar	14.2	11.1
16. Other exports	23.6	34.6
17. *Total exports* (f.o.b.)	157.5	154.4
18. Net current credit (+) or debit (—) (17 — 11)	+19.3	—7.3
CAPITAL ACCOUNT		
19. Amortization of SHADA loan	—	0.2
20. Amortization of Government debts	8.8	3.5
21. Repayment of 1922/23 Government loan	15.1	—
22. *Total listed capital debits*	23.9	3.7
23. Decrease in foreign assets of the Royal Bank	—	0.7
24. Decrease in foreign assets of the B.N.R.H.	17.3	10.5
25. *Total listed capital credits*	17.3	11.2
26. Net capital credit (+) or debit (—) (25 — 22)	—6.6	+7.5
27. Errors, omissions, and movements not accounted for (18 + 26)	+12.7	+0.2

TABLE 7

Exports of Principal Commodities

Commodity	*1924/25*	*1928/29*	*1931/32*	*1934/35*	*1936/37*	*1938/39*	*1942/43*	*1946/47*	*1947/48*
A. *Thousands of metric tons*									
Coffee	30.8	28.6	23.2	19.0	24.8	29.3	25.8	24.7	22.7
Cotton, raw..	3.6	4.8	6.3	6.2	5.4	4.7	2.0	0.3[b]	3.3
Sugar	5.4	4.7	20.6	32.7	32.5	38.2	11.6	26.1	20.1
Sisal	—	0.1	2.8	5.0	6.2	7.5	10.7	28.4	26.1
Bananas	—	—	0.03[a]	0.5[a]	1.3[a]	2.0[a]	0.6[a]	7.3[a]	3.5[a]
Cacao	1.5	1.4	0.8	1.1	1.4	1.8	1.8	1.9	1.8
Molasses ...	—	9.9	13.5	10.0	10.8	15.6	—	13.2	14.1
B. *Percentage of total export value*									
Coffee	79.4	77.1	72.9	53.6	52.2	51.5	53.9	38.5	34.9
Cotton, raw..	3.6	12.4	11.3	21.5	17.1	14.5	4.0	0.5	3.8
Sugar	1.9	1.3	6.2	9.8	9.1	14.0	6.6	9.0	7.2
Sisal	—	0.1	2.4	5.7	8.5	7.4	18.6	18.0	26.3
Bananas	—	—	0.1	2.1	4.2	7.8	2.7	19.5	9.2
Cacao	0.9	1.4	0.7	1.1	2.2	1.7	2.4	2.5	4.1
Molasses ...	—	0.7	1.1	0.9	0.9	1.1	—	1.0	1.8
Handicraft articles							1.0	2.6	5.3
Essential oils	14.2	16.6	15.3	5.3	5.8	2.1	0.7	1.7	0.7
All others							10.1	6.7	6.2
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a] Million stems.
[b] Not including cotton waste.

The percentage distribution of imports shown in table 8 illustrates Haiti's marked dependence on foreign supply of basic necessities. The share of foodstuffs in total imports declined from some 30-35 per cent in the relatively most "prosperous" years of the 1920's to barely 11 per cent in the lean import years of the middle of the war; by 1947/48 food imports had recovered to nearly 20 per cent of the sharply increased total import value. The share of textile products, chiefly simple cotton fabrics, accounting normally for 30-35 per cent of the total, dropped sharply to about 19 per cent in 1947/48 and is expected to continue to shrink with the development of the domestic cotton manufacturing industry which is now well under way.

The expansion in the joint share of iron and steel manufactures, machinery and apparatus, i.e., of capital goods, from roughly 7 or 8 per cent in 1924/25 and 1931/32 to over 13 per cent by 1937/38 (when equipment

TABLE 8

Percentage Distribution of Imports of Principal Commodities

Commodity	*1924/25*	*1928/29*	*1931/32*	*1934/35*	*1936/37*	*1937/38*	*1942/43*	*1946/47*	*1947/48*
Wheat flour .	12.7	17.4	13.3	7.9	8.9	7.3	6.7	8.8	11.6
Other foodstuffs .	15.3	17.7	16.4	11.3	9.9	10.6	4.1	6.3	7.9
Cotton textiles	35.4	18.0	26.8	27.9	34.6	32.5	36.5	29.7	18.9
Other textile products ..	2.4	3.3	3.0	3.5	3.4	2.3	3.8	0.9	3.2
Soap	2.7	3.7	4.1	2.7	3.9	4.6	4.7	3.4	5.0
Machinery and apparatus..	2.6	4.7	4.6	6.0	6.5	7.8	—[a]	4.4	6.1
Iron and steel manufactures	4.7	7.1	3.8	6.2	5.4	5.5	3.6	6.2	6.7
Petroleum products ..	1.9	5.7	7.4	5.9	5.6	5.0	3.8	1.7	2.2
Other goods .	22.3	22.4	20.6	28.6	21.8	24.3	36.8	38.6	38.4
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a] Included with "other goods".

for starting the 1938 public works programme was provided), its reduction during the war years and renewed expansion to nearly 13 per cent again in 1947/48 (when preparations for the construction works planned for the Port-au-Prince Exposition were begun) is significant. Similarly the marked growth after the war of the share of the residual group ("other goods"), comprising a widening variety of sundry manufactured articles, points to an evolution in harmony with economic development desiderata. Finally, the substantial share of soap in the greatly expanded total import value of 1947/48 deserves to be noted.

Particular significance attaches to the terms of trade in the general economic development picture, inasmuch as a favourable export/import price relationship is apt to facilitate developmental efforts and an unfavourable price relation to impair the basis for such efforts. A study made by the United Nations Secretariat indicates that, on the basis of the 1937 composition of trade, and taking 1937 as the base year, Haitian terms of trade with the United States improved by 3 per cent in 1946, 4 per cent in 1947 and 2 per cent during the first four months of 1948. Compared with 1938 (in which year the price-ratio index deteriorated to 90, taking 1937 = 100), the improvement in terms of trade in 1946-1948 was larger. If the 1947 composition of trade be taken as the base, the index of Haitian

Village market at Petite-Rivière. In foreground, flour bags, rice, wheat and milk are being sold. In most villages, the market stretches along a row of houses in a small street, or takes up the whole public square.

terms of trade showed an improvement for 1947 and January-April 1948 of 6 per cent over 1937.[1]

In terms of imports of textile products, Haitian terms of trade show a marked deterioration, being now about 20 per cent worse than in 1937.

[1] The basic indices of Haitian import and export prices in trade with the U.S.A. computed for the years 1937, 1938, 1946, 1947, and January-April 1948 for the purpose of its study, PRICE RELATIONS IN TRADE BETWEEN UNDER-DEVELOPED AND INDUSTRIALIZED COUNTRIES, were the following:

Haitian Import and Export Prices in Trade with the U.S.A.
(1937 = 100)

	Import Prices Weighted by trade of		*Export Prices Weighted by trade of*	
Year	*1937*	*1947*	*1937*	*1947*
1937	100.0	100.0	100.0	100.0
1938	90.0	92.7	81.0	84.3
1946	189.1	175.4	196.6	188.0
1947	254.6	228.9	246.1	242.2
1948 (Jan.-April	278.6	236.9	278.6	252.2

The indices relate in fact to U.S. export and import prices f.o.b. in trade with Haiti, which should in principle be identical with Haitian import (f.o.b.) and export prices in trade with the U.S.A.

This partial deterioration, however, is more than offset by simultaneous improvement in Haiti's terms of trade so far as imports other than textiles are concerned, and more especially in terms of imported capital goods.

The improvement noted in the terms of trade with the United States has been primarily due to price gains for exported coffee, castor beans and sisal, while export prices of bananas have lagged behind import prices. Adjustments in price relations have occurred since April 1948 and further changes, of uncertain impact on the terms of trade, were anticipated at the time when the study was made.

3. Geographical Orientation of the External Trade

In table 9 the geographical distribution of Haiti's imports and exports is shown.

France was the principal market for Haitian exports until the fiscal year 1936/37, when the United States became the major customer. The close relationship with France had dated from the colonial era and had been supported by a series of treaties in which Haiti granted various tariff reductions on French products (combined with most-favoured-nation treatment of such products) in return for minimum French duties, particularly on coffee. The shift from France to the United States as the leading buyer followed the termination, in April 1936, of the commercial agreement of 1930 (with supplementary accord granting tariff reductions on various French products). Two years later the French market for Haitian coffee was again opened by a new commercial convention, implying reductions in the Haitian tariff on certain French goods and the granting by France of a considerable import quota of Haitian coffee. However, France did not regain her position in Haiti's trade, largely because of the prevailing tendency toward bilateralism in foreign trade and because of the commercial *rapprochement* of Haiti to the United States which had already begun before the expiration in 1936 of the Franco-Haitian agreement. A trade agreement between the United States and Haiti based on mutual tariff concessions (effective as from June 1935) has greatly increased the role of the United States in Haitian trade. Diversification of Haitian agricultural exports favoured this trend. The share of the United Kingdom in Haitian imports as well as exports also increased greatly in the middle of the 1930's.

In the early 1930's before the close commercial relationship with France was discontinued, France absorbed approximately half of Haiti's exports, while some two-thirds of Haiti's imports were furnished by the United States and only about 6 per cent by France. Thus, the chief bilateral export surplus arose in the trade with France and the chief bilateral

TABLE 9

Percentage Geographical Distribution of Imports and Exports

Country	*1924/25*	*1928/29*	*1931/32*	*1934/35*	*1936/37*	*1938/39*	*1942/43*	*1946/47*	*1947/48*
A. *Imports*									
United States	76.9	69.8	67.6	48.4	51.0	62.3	76.7	87.8	82.1
United Kingdom ..	8.5	6.8	9.2	9.2	17.8	11.1	1.6	0.7	7.2
Germany	4.0	4.4	4.2	6.0	7.1	5.7	—	—	—
France	6.7	7.9	5.9	5.5	2.4	5.1	—	0.6	1.1
Belgium	0.1	0.8	1.0	2.0	2.8	2.7	—	0.7	1.1
Other countries ..	3.8	10.3	12.1	28.9	18.9	13.1	21.7	10.2	8.5
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
B. *Exports*									
United States	12.0	7.8	8.1	12.1	27.9	34.4	80.5	59.6	60.1
United Kingdom ..	2.9	4.9	12.9	22.3	16.1	18.9	6.2	9.3	10.8
Germany	2.7	4.1	3.2	3.7	4.2	—[a]	—	—	—[a]
France	63.5	55.3	44.6	39.6	16.3	21.0	—	0.9	1.1
Belgium	3.6	5.6	9.1	8.6	12.5	10.3	—	11.3	12.2
Other countries ..	15.3	22.3	22.1	13.6	23.2	15.4	13.3	18.9	15.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a] Included in "other countries".

Note: The countries are arranged in the order of their relative importance in imports in 1938/39.

import surplus in the trade with the United States. Before World War II Haiti did not have an export surplus in trade with the United States, notwithstanding increased sales of coffee, sisal and bananas to that country, which was a principal buyer also of Haiti's cacao beans, molasses, goatskins, logwood, castor beans, and lignum vitae. In the pre-war period cotton and sugar were sold principally to the United Kingdom.

From 1940/41 Haiti was practically isolated from Europe and the share of the United States in both imports and exports rose to over four-fifths. As the United States came to absorb a growing proportion of Haiti's exports, the import surplus in the trade with the United States dwindled and was replaced by a small export surplus in 1944/45 and 1945/46. Subsequently a considerable import surplus again developed, amounting to

twenty-six million gourdes in 1946/47 and thirty-nine million in 1947/48 ($5.3 and $7.8 million respectively).

Trade with Europe, especially Belgium and the United Kingdom, has been resumed since the war. As a country in the dollar area, Haiti is inevitably affected by the balance-of-payments difficulties of western European countries and by the development of colonial sources of supply of tropical products.

C. TOURISM

In recent years the Government has accorded a great deal of attention to the promotion of tourism—an "invisible" export of considerable importance to the Caribbean area. As yet the Haitian tourist trade is not very much developed, although the country possesses bountiful attractions of nature and people. Haiti does not in fact realize a yield from this potential source of income comparable to that realized by Cuba, Jamaica, Puerto Rico, and the United States Virgin Islands. During the 1929-1938 decade expenditures of United States travellers in Haiti amounted, according to United States estimates,[1] to only $2.1 million, or scarcely more than $200,000 annually, offset for a substantial part by expenditures of Haitian travellers in the United States. Tourist income is not derived exclusively from the United States; visitors also arrive from other Western Hemisphere countries and from Europe. On the other hand, expenditures of Haitian travellers in Europe—France in particular—probably exceeded those made by Europeans in Haiti during the above-mentioned period.

Haitian authorities have become increasingly conscious of the role of United States tourist expenditures as a factor in the Haitian economy during the post-war years. The Government's interest has been expressed both in considerable direct expenditure on its own part and in encouragement of private investment. There has been set up a Department of Tourism attached to the Ministry of External Relations and headed by an Under-Secretary of State. The principal expenditures made by the Government in the field of tourism promotion relate to the organization of an international exposition commemorating the bi-centennial of the founding of Port-au-Prince (1749). The preparation of this exposition, planned to be opened at the end of December 1949, is tied in with a scheme for construction of permanent public buildings, improvement of the harbour, clearance of adjacent slums, encouragement of the construction of hotels, and embellishment of the down-town business quarters of Port-au-Prince. The last-mentioned facet of the general programme of preparations is

[1] Cf. United States Tariff Commission, *The Foreign Trade of Latin America*, part II, section 20—Haiti (Washington, D.C., 1941), "Partial Balance of Payments between the United States and Haiti 1929/38."

Part of beautiful undeveloped beach near Jacmel. Gently sloping sandy beach, bordered by coconut groves and other tropical vegetation, awaits only roads and hotel facilities to contribute to Haiti's potential tourist trade.

Cock fight arena near Villard, lower Artibonite Valley. Such events draw considerable attendance in rural Haiti.

financed largely by the business community of the capital. Reduction of import duties has been granted with respect to materials required to add to hotel capacity, to refurnish hotels, and to freshen the appearance of business establishments.

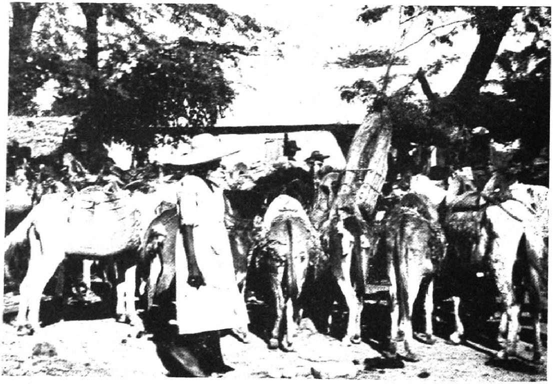
With its magnificent scenery, unique historical landmarks, and striking customs, Haiti has the natural requisites for the development of tourism with favourable effects on employment and income, on the scope of markets for indigenous craft work, and on the balance of payments. However, concentration on the development of tourism should not be allowed in any way to lessen the attention to the more vital development requirements in the fields of production and transport, education and health. Once the measures initiated by the Government for promoting the development of tourism have had a chance to work themselves out, the point of gravitation in these activities may with advantage be shifted more squarely on to private interests which, if properly organized among themselves for serving the tourist effectively from the moment of his entry into the country, could well shoulder a major share of the developmental effort in the field. The co-operation of the shipping lines operating the external communications of Haiti is essential for the success of this effort.

D. FOREIGN CAPITAL INVESTMENT

The amount of foreign investment which has gone into new productive enterprise in Haiti in recent decades has not been high. A substantial part of the Government's foreign borrowing served primarily the purpose

Women merchants travel on foot or on burro from one market to another, selling and buying miscellaneous articles of clothing, food, and crude household equipment.

Returning from market. Market day is a social occasion.



Parking space for burros and small horses on which the country people have come to market. Several hundred burros are tied here while their owners are at the market.

of consolidation and refunding of unproductive debt incurred in the past; but foreign capital also found its way into investments of more immediate benefit to the Haitian economy, even though some ventures proved in the end to have been miscalculations in part. In certain cases the Government has had to assume financial risks in respect of capital investments from abroad.

Several of the major products which have shown a rising trend of export production over the last two decades, such as sisal, sugar, and bananas, have been largely produced or have been bought for export by enterprises financed from abroad. Handicraft production for export of fancy articles of sisal, etc., while owing much to foreign stimulation, is domestically financed, and the essential oils industry is a commendable example of domestically initiated and organized enterprises for export production. Among the major home market industries, that of soft-wood lumbering and sawing has its origin in external finance, while other industries manufacturing goods for domestic consumption have been organized and developed by foreign nationals by means of business profits realized in Haiti and put to good use by re-investment in the country.

For over a century after the declaration of national independence Haiti depended for foreign finance almost exclusively on the French securities market. Since 1910 the United States has been the principal source of foreign investments. The statistical information available on foreign investments in Haiti is rather fragmentary and admittedly incomplete even for the parts the data purport to cover, but a summary may have some value as an illustration. The figures regarding United States investments given below for selected years up to the middle of the 1930's are derived from Cleona Lewis, *America's Stake in International Investment.*[1]

United States Investments in Haiti

(million dollars)

Year	Portfolio investments	Direct investments in: Agriculture	Railroads	Public utilities	Portfolio and direct investments total[a]
1908	—	—	5.1	—	5.1
1914	0.4	—	10.4	—	10.8
1919	—	7.0	10.1	0.2	17.3
1924	17.3	8.0	9.7	0.2	35.2
1929	14.5	8.7	2.3	2.8	28.3
1935	9.7	6.5	1.0	—	17.2

[a] Totals not computed in the source.

[1] Brookings Institution, Washington, D.C., 1938.

The sums shown above represent nominal values in the case of portfolio investments and book values in the case of direct investments. The portfolio investments relate to the 1922/23 dollar loan used principally for repaying the outstanding amounts of the old French loans.[1] The initial United States direct investments, made shortly before World War I, were principally in railroads. Considerable investments were made in agriculture during that war, and were subsequently added to until they became largely unremunerative during the great depression. Investments in public utilities were also encouraged during the 1920's, while those in railroads were gradually retired during the inter-war period, in part through satisfaction from the 1922/23 dollar loan of claims relating to the railroads. The amortization of that loan proceeded regularly until the collapse of coffee prices exposed the Haitian economy to heavy strain, in view of which the United States bondholders consented to a transitory arrangement reducing the amortization to a token sum.

According to the above statement, United States portfolio and direct investments shrank from $14.5 and $13.8 million respectively in 1929 to $9.7 and $7.5 million in 1935. According to a computation by the United States Department of Commerce, portfolio investments amounted in 1933 to $11 million and direct investments to $14 million. Ten years later, according to the *Census of American-owned Assets in Foreign Countries*,[2] the American-owned assets in Haiti totalled, on 31 May 1943, $17.7 million distributed as follows:

	Million $
Securities (portfolio investments)	2.1
Interests in controlled enterprises[a]	14.2
Real property	0.5
Bullion, currency, deposits	0.2
Miscellaneous	0.7
TOTAL	$17.7

[a] I.e., enterprises in which ownership of one person or an affiliated group of persons exceeded 25 per cent of the voting stock of corporations, and analogous interests in partnerships and other organizations.

[1] Further information with reference to the 1922/23 dollar loan will be found in part II, chapter VI, Problems of Public Finance, section IV.4. According to official statements the dollar equivalent of (the nominal value of) the foreign public debt at the end of the fiscal years 1914/15 and 1918/19 amounted to $21.6 and $18.1 million respectively.

[2] United States Treasury Department, Washington, D.C., 1947. Figures taken from table 1, Value of American-owned Assets by country and by property class, on 31 May 1943.

The "interests in controlled enterprises" included the following sub-items:

	Million $
Manufacturing	0.2
Petroleum	0.4
Public utilities and transportation	2.3
Agriculture	7.6
Trade	0.6
Finance	3.1
TOTAL	$14.2

The securities of nominally $2.1 million included Government obligations with a market value of $1 million and stocks with a market value of $0.4 million. The fact that the balance of 1922/23 dollar loan outstanding at that time amounted to (nominally) $7.9 million suggests that the bulk of that loan had been repatriated. Its amortization was resumed on full scale in the 1943/44 fiscal year. By the middle of 1947 the balance had been reduced to $4.9 million. How this balance was entirely liquidated at the close of the 1946/47 fiscal year, in part ($1.9 million) through conversion into bonds of the Internal Loan of 1947, is described in the public finance chapter.[1]

The above statement of American-owned assets in Haiti relates only to investments on private account. Since the middle of the 1930's the principal type of fresh investment of foreign capital has not been private direct investment, notwithstanding the absence of transfer difficulties. Investment on governmental account has been by far the most important source of foreign capital supply. In 1938 a loan of some $5.5 million was secured by the Haitian Government from the United States Export-Import Bank for execution of developmental public works—mainly construction of roads, irrigation works, etc.—under a special contract with a United States engineering firm. In 1941 another loan of some $5 million was granted by the Export-Import Bank to the Government-controlled *Société haïtiano-américain de développement agricole* (SHADA) for agricultural development purposes. This loan, guaranteed in full by the Haitian Government (though not appearing in the public debt statements), was spent largely on hevea rubber plantations, which have not yet come into production,[2] and also on development of sisal cultivation and forest exploitation. In addition, under special agreement with the Haitian Government, large sums were spent in Haiti during the war by

[1] See part II, chapter VI, Problems of Public Finance, section II.2.

[2] See note (iv), Rubber, appended to the chapter on Agricultural Development.

the United States Rubber Development Corporation on a programme for production of rubber from *cryptostegia* which, however, proved a failure and made no lasting contribution to the economic development of the country.

The financial assistance extended to Haiti by the United States Export-Import Bank up to 30 June 1948 was:[1]

	Million $
Total authorized	13.4
Cancelled and expired	—2.7
Disbursed	10.7
Repaid	—4.3
Outstanding	6.4

In January 1949 the Export-Import Bank announced that it had agreed in principle to lend the Haitian Government $4.2 million for the execution of a development programme for the lower Artibonite.

In addition to the United States capital investments here reviewed, funds are contributed annually by the Institute for Inter-American Affairs to a current programme for developing food production and improving health conditions which is financed for the major part by the Haitian Government. There is also an agricultural experiment station maintained in Haiti by the United States Department of Agriculture.

[1] Export-Import Bank, Washington, *Sixth Semiannual Report to Congress for the Period January-June 1948*. Appendix A, Statement of Loans and Authorized Credits on 30 June 1948.

CHAPTER V

Credit Organization

1. Money and Banking Structure

There is considerable evidence to indicate that Haiti is much more of a money economy than might be supposed in view of the little developed economic conditions of the broad masses described elsewhere in this report. Such conditions are usually associated with subsistence agriculture, in which the peasants consume directly most of their own produce, selling but a small part of it for the cash needed to buy essentials that they cannot grow or make for themselves. Actually it would appear that the average Haitian peasant sells a quite substantial portion of his crops for cash—not only his coffee, bananas, and other export staples, but also his corn, beans, and other local food crops. Even produce that he will later need to buy for his own consumption may be sold, because in many cases it is difficult for him to keep the crop without spoilage or damage by rot, rodents, or insects.

He does not however, hold the proceeds in cash;[1] and he certainly does not deposit them in a bank. Instead he buys land, or chickens, or a pig or a cow, and when he needs money for food or some other essential purpose he sells these in turn. Nor is this procedure as uneconomic as might at first appear, for in the meantime he gets eggs, milk, or perhaps a new litter of pigs or a calf.

Since two and sometimes three crops a year can be grown, and since crops mature in different regions at different times as a result of varying altitudes and rainfall patterns, there is a fairly constant though far from abundant supply of the basic foods available on local markets. These markets, which are to be found throughout the country, are linked by *revendeurs* who are constantly travelling from market to market, buying here and selling there, in a complex system of internal trade. The articles traded range all the way from local food crops to such chiefly imported essentials as cheap textiles, needles and thread, soap, simple agricultural tools, and so on.

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[1] There is some evidence of hoarding by the people, but it does not appear that the total amount is large. Such as there is is likely to be in Haitian money rather than in U.S. dollars, and preferably in nickel coins.

The monetary unit—the gourde—is rigidly tied to the U.S. dollar at a statutory par value of 20 cents U.S. There are two banks, the *Banque nationale de la République d'Haïti* (which has eight branches and three agencies located throughout the Republic), and a branch of the Royal Bank of Canada at Port-au-Prince. There are no other financial institutions, but a great many private moneylenders and merchants engage in certain types of elementary banking business. Virtually no data are available on the magnitude of the operations of these individuals. A decree of 19 March 1942 limits the banking business to the National Bank, the Royal Bank, and companies established for twenty years and composed of Haitians or citizens of allies of Haiti.

(i) *Banque nationale de la République d'Haïti*

(*a*) *Legal Status*

This Bank has been owned by the Government since 1935; its contract runs until 21 October 1960, and will be automatically renewed thereafter for periods of twelve years each unless either party gives one year's prior notice. The legal basis of the Bank's operations is very complex, going back to a contract in 1910 between the Haitian Government and the *Banque de l'Union parisienne*, the then owner of the National Bank, but involving many other contracts, agreements, laws, and even international treaties. In 1922 the National City Bank (New York) took over the National Bank, having purchased the interests of the *Banque de l'Union parisienne*. The terms of the contract were materially amended by a new contract between the Government and the National City Bank. No single codification has ever been made of the many laws and other instruments affecting the position of the National Bank. The most important of these (in addition to the 1910 and the 1922 contracts) are the following:

(1) The treaty of 1915 and the executive agreement of 1941 between the United States Government and Haiti, and the loan agreement of 1922, which assign certain fiscal functions to the National Bank;

(2) The agreement of 12 April 1919 relating to monetary reform, and later amendments thereto;

(3) The laws of 27 April 1921 and 16 July 1926, relating to subsidiary coinage;

(4) The law of 23 December 1927, which modifies the earlier provisions regarding the note issue;

(5) The 1935 contract of sale of the National Bank to the Haitian Government, and the laws of 28 March and 21 May 1935, approving the sale;

(6) The laws of 4 September 1936, 8 June 1942, 3 March 1943, 6 March 1946, and 5 November 1946, successively raising the limit on the note issue; and

(7) The law of 12 July 1947 authorizing the Internal Loan, which affected the structure and functions of the National Bank.

Although there are no specific provisions for amendments, there has in fact never been any difficulty on this score. As a review of the laws and agreements listed in the preceding paragraph will show, important amendments have often been made by agreement between the parties concerned; now that the Bank is owned by the Government there is even less reason to foresee any difficulty in this respect, and there would seem to be no legal impediments. The only important legal limitation would appear to be implicit in the 1947 Internal Loan contract, namely, that no change which materially weakens the security of the bondholders can be made.

(*b*) *Organization and Functions*

The Bank is administered by a board of directors, six in number, of whom five are appointed by the President of the Republic for a five-year term. They can be removed only for misappropriation, recognized incompetence, or improper conduct involving loss of civil and political rights. One of the appointed members is designated Co-President and Director-General of the Bank; in addition the Minister of Finance is *ex officio* Co-President of the Bank and (non-voting) member of the board of directors. The Bank is divided into a Commercial [Banking] Department, headed by three vice-presidents, all of them members of the board of directors, and a Fiscal Department, headed by a fourth vice-president, not a (voting) member of the board of the Bank. The position of the latter department, functioning *de facto* as an autonomous service in the Ministry of Finance which carries in its budget the salaries of the staff and other operational expenditures of the Fiscal Department, is described in further detail in chapter VI, Problems of Public Finance. For the duration of the 1947 Internal Loan the Government has undertaken not to modify the organization and attributes of the two departments, though it has reserved the freedom to create new departments in the Bank. As may be concluded from the indications here given, the Commercial [Banking] Department is *de facto* the Bank under the present organization.

The Bank has the exclusive note issue privilege. The first twenty million gourdes must be covered to at least one-third by U.S. dollars and for the remainder by securities of the 1947 Internal Loan (6.1 million gourdes

of such securities are held by the Bank for that purpose) or by eligible bills (two-name trade paper or one-name paper supported by the pledge of merchandise or other collateral) maturing in not over 120 days. All notes in excess of twenty million gourdes must be covered to 100 per cent by U.S. dollars. Of the dollars held as cover for the notes issued not more than half may be on deposit in New York. While under these provisions eligible bills could be held in the cover reserve up to the amount of 13.3 million gourdes prior to the acquisition by the Bank of the 1947 Internal Loan bonds,[1] the Bank has not for many years held trade paper in anything like this amount; the notes have therefore been covered so far by more than the required amount in U.S. dollars. The dollar holdings are sufficient, in fact, to provide a substantial reserve against deposit liabilities, also, though there is no legal requirement to maintain such reserves.

Besides being the bank of issue, the National Bank performs the usual function of fiscal agent for the Government, and operates a normal banking business; all these functions centre in the Commercial [Banking] Department.

In addition to carrying the expenses of the Fiscal Department, the Government pays the Bank, in consideration of other services rendered, a commission of 1 per cent (subject to a minimum of 300,000 and a maximum of 500,000 gourdes per annum) of all sums credited to the Government revenue deposit account with the Bank. The Bank is also entitled to a commission of ¼ per cent on the net proceeds of Government loans raised abroad. The directors of the Bank have full power to regulate its accounts. After providing the ordinary reserves, one-third of profits is used to build up a surplus account, up to 50 per cent of the capital: one-third to finance projects to expand agricultural exports; and one-third is paid to the Government as a dividend in lieu of all taxes or other contributions. The provision for this allocation of profits is considered to be mandatory on the board, rather than merely permissive, though there does not seem to have been a formal ruling on it.

The Bank is empowered to accept deposits, to make discounts and loans, including agricultural loans, and to perform all general banking operations, including those of a savings institution. Mortgage loans may not

[1] Between 1935 and the middle of 1947—the date of authorization of the Internal Loan—other bonds of the Haitian Government were, in principle, eligible as note issue cover in a maximum amount of three million gourdes. In actual fact, however, the Bank held only insignificant amounts of such securities (cf. balance sheet data for 31 December 1934 and 31 March 1947 given in table 1A, page 252).

exceed the paid-up capital of the Bank (five million gourdes). *If new fractional currency is issued by the Government, it must be done through* the Bank. In practice, the Bank does not grant agricultural loans. Mortgage loans amounted to 1,081,063 gourdes at the time of the inspection by the U.S. Federal Reserve examiners on 12 March 1948; in virtually all cases such loans are on urban property and the mortgage is taken merely as collateral security for a commercial loan.

The Bank is under an obligation to advance up to three million gourdes to the Government in the event that the funds available for Government *expenses are insufficient. Such advances bear interest at 5 per cent and are* subject to an additional penalty of ½ per cent if not repaid within four months. In practice this provision has never been operative, however, due to a legal ruling which placed limitations on the right of the Government to borrow. Nevertheless, the Government has on occasion incurred a debt at the Bank to an amount approaching this same sum, by failure to repay the Bank promptly for disbursements made on letters of credit.

(*c*) *Assets and Liabilities*

The position of the National Bank (1) at the end of 1927, a typical year of the period of economic expansion in Haiti preceding the world economic depression, (2) at the end of 1934, the year preceding the sale of the Bank to the Haitian Government, (3) in March 1947, the month including the seasonal peak of note circulation and foreign reserves prior to the authorization of the internal loan of that year, and (4) in December 1948, will be seen from the following summary of published balance sheets for those dates (table 10.A).

Little gold, if any, was held by the Bank in 1927 and 1934. The amount of gold held at the end of 1948—13.2 million gourdes ($2.6 million) will be seen from the more detailed analytic summary of the balance sheet for that date given as part B of the table. The securities held in 1928 were all United States bonds (and thus formed part of the foreign assets though given as a separate item in the summary), whereas those shown for March 1947 and December 1948 were all Haitian Government securities.

It will be noted that while the ratio of the foreign assets to the total of the note circulation and the deposits of the Bank has always been very high, it was less pronounced twenty years ago (80 per cent in 1927) than in early 1947 (90 per cent in March of that year). The higher ratio of discounts and loans to deposits in 1927 (70 per cent at the end of

TABLE 10

National Bank of the Republic of Haiti

A. *Retrospective Summary of Balance Sheet Position on:*

	31 December 1927	*31 December 1934*	*31 March 1947*	*31 December 1948*
		(million of gourdes)		
Assets				
Gold, dollar exchange and due from banks abroad (U.S.)	27.2[1]	24.2[1]	72.7[1]	37.8[1]
Securities	8.0	0.4	1.1	9.8
Discounts	6.5		3.2	
Loans	13.1	15.3	10.4	29.7
Premises and sundry accounts	1.1		1.4	2.3
TOTAL ASSETS	55.9	39.9	88.8	79.6
Liabilities				
Note circulation	16.2	7.8	34.2	31.2
Private deposits	28.0	20.5	24.4	26.7
Haitian Government deposits			21.7	11.7
TOTAL NOTES AND DEPOSITS	44.2	38.3	80.3	69.6
Reserve funds and undistributed profits	1.6	1.1	2.4	4.9
Share capital	10.0	10.0	5.0	5.0
Sundry accounts	0.1	0.5	1.1	0.1
TOTAL LIABILITIES	55.9	39.9	88.8	79.6

[1] Including small amount of subsidiary coin.

B. *Analytical Summary of Balance Sheet for 31 December 1948*

(millions of gourdes)

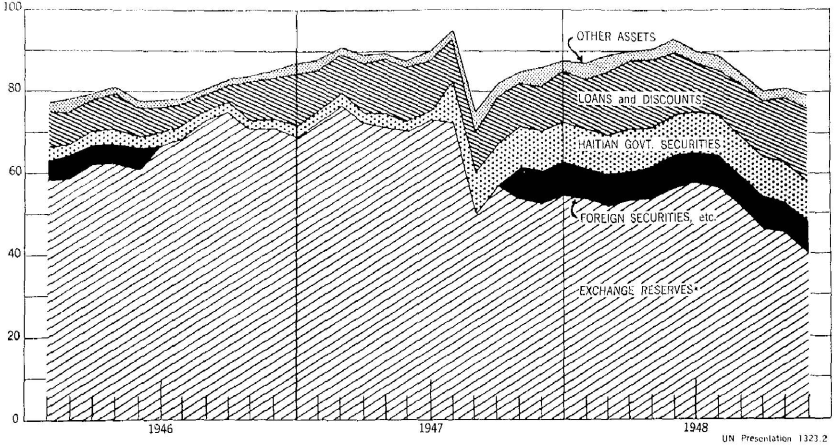
Assets		
Note Issue Accounts		
Gold bullion in New York	13.1	
U.S. dollars in Haiti	8.9	22.0
Bills and securities:		
Eligible bills	3.1	
Internal Loan bonds (5% 1957)	6.1	
Other securities	—	9.2
TOTAL COVER RESERVE		31.2
Banking Department Accounts		
Cash reserve:		
Subsidiary coin	0.5	
U. S. dollars in Haiti	8.5	9.0
Due from banks		6.8[2]
Haitian Government securities (5% 1957)	3.7	
Loans and discounts:		
Discounts and advances	19.0	
Sundry debtors	7.6	26.6
Premises		1.1
Sundry assets		1.2
TOTAL ASSETS		79.6

Liabilities		
Note Issue Accounts		
Authorized note issue	40.0	
Unutilized note issue	7.3	
Notes actually issued	32.7	
Less notes on hand	1.5	
Notes in circulation	31.2	31.2
Banking Department Accounts		
Private deposits:		
Current accounts and savings accts.	18.3	
Other deposit accounts	7.0	25.3
Haitian Government deposits:		
Current accounts	9.0	
Subsidiary coins accounts	1.2	
Internal Loan amortization accts.	1.5	
Deposits of Fiscal Department	—	11.7
Due to banks		1.4
Bank's own funds:		
Undistributed profits	1.2	
Surplus and reserve funds	3.7	
Share capital	5.0	9.9
Sundry liabilities		0.1
TOTAL LIABILITIES		79.6

[2] Including 165,000 gourdes of gold bullion in New York not included in cover reserve.

Chart II.—Assets of the Banque nationale de la République d'Haïti, 1946-1948

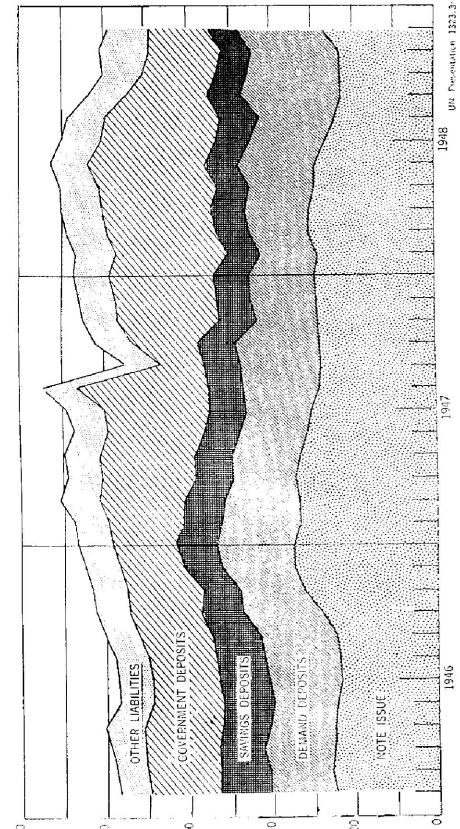
(in millions of gourdes; 1 gourde = $0.20 U.S.)



*Gold, foreign exchange, and due from banks abroad, virtually all in U.S. funds.

Chart III.—Liabilities of the Banque nationale de la République d'Haïti, 1946-1948

(in millions of gourdes; 1 gourde = $0.20 U.S.)



that year) than in early 1947 (30 per cent) testifies to the fact that a more active credit policy was pursued by the Bank in the past. A marked change occurred, however, in connexion with and subsequent to the repayment in the latter part of 1947 of the balance of the old dollar loan of 1922/23. By the end of 1948 the ratio of foreign assets and gold bullion to total circulation and deposits had receded to 54 per cent, a substantial amount of interest-bearing Haitian securities having been substituted for less productive dollar exchange holdings, while the ratio of discounts and loans to deposits had been increased from the 1934 low mark of 30 per cent[1] to as much as 77 per cent. Thus the Bank seems in fact to have begun reorienting its operations in the direction of a more active (or less passive) credit policy, anticipating, as it were, the Mission's policy recommendations in this respect.

Charts II and III summarize the month-end assets and liabilities of the National Bank for the years 1946 and 1948.[2] The most outstanding feature is the high degree of liquidity already pointed out with reference to the summary table above; loans, discounts, and investments have been small and reserves in the form of U.S. cash or deposits in U.S. banks have been high relative to deposit and note liabilities.

The same data for the years 1927 to 1948 are given in charts IV and V, except that only two months in each year have been plotted. The purpose of this is to show the typical seasonal variation, and for this reason the months of March and August have been chosen. March is usually the seasonal peak with respect to notes issued and loans outstanding, as credits for the marketing of coffee and other crops are then at their height, and August is usually the month during which these credits recede to the lowest level of the year.

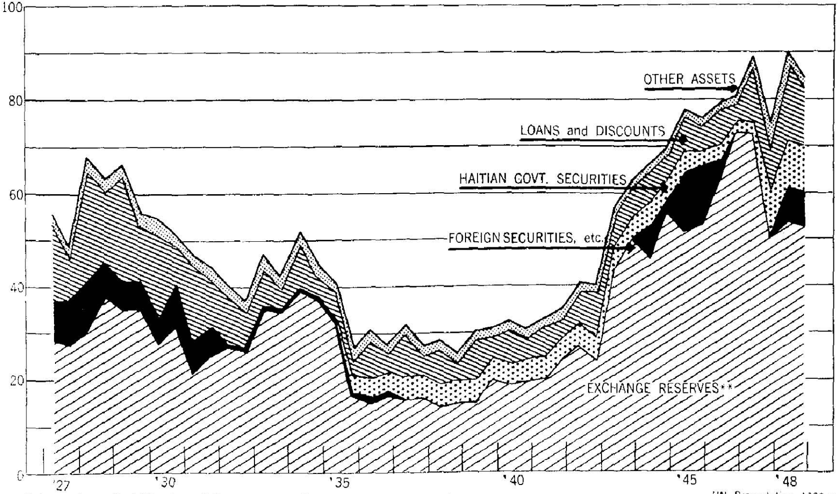
In reading the charts the two major events of 1935 and 1947 having repercussions on the composition of the assets and liabilities accounts should be borne in mind. Prior to the purchase of the Bank by the Haitian Government in 1935 the share capital was ten million gourdes, but the purchase agreement involved the reduction of this capital to five million gourdes (in July of that year) and the payment of the difference to the National City Bank in U.S. funds, together with accumulated earnings. This made a total liquidation dividend of some 6.5 million gourdes, the effect of which can be seen in the foreign exchange holdings of the Bank

[1] Calculated from data obtained from the files of the Bank.

[2] The data used were obtained from the files of the Bank; published figures do not distinguish between savings deposits and demand deposits.

Chart IV.—Assets of the Banque *nationale* de la République d'Haïti, 1927-1948*

(in millions of gourdes; 1 gourde = $0.20 U.S.)

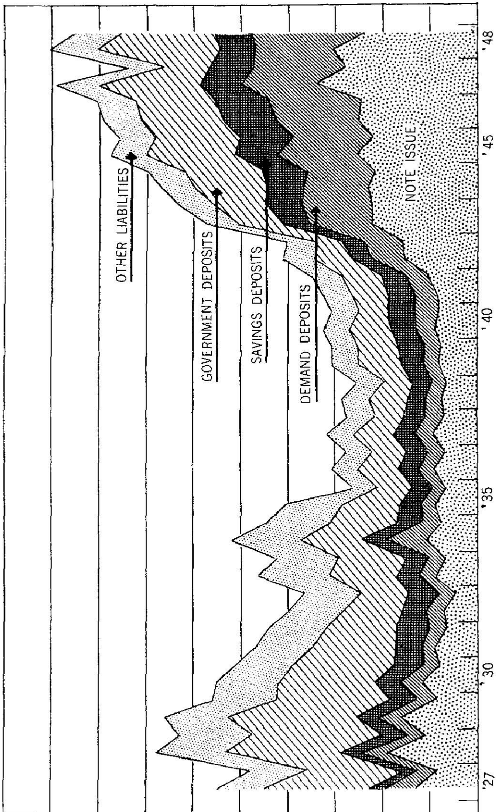


* As at the end of March and August, approximately the seasonal peak and trough.

** Gold, foreign exchange, and due from banks abroad, virtually all in U.S. funds.

Chart V.—Liabilities of the Banque nationale de la République d'Haïti, 1927-48*

(in millions of gourdes; 1 gourde = $0.20 U.S.)



* As at the end of March and August, approximately the seasonal peak and trough.

in chart IV, and in the "other liabilities" item (which includes capital) in chart V. At the same time the Bank was allowed to acquire and hold three million gourdes of Government bonds as part of the eligible portfolio covering the note issue; the effects of this can also be seen in chart IV.

The transactions connected with the retirement in 1947 of the balance of the 1922/23 dollar loan and the issue of the internal loan[1] resulted in the use of some fifteen million gourdes of foreign exchange (U.S. dollars) in effecting the repayment of the foreign debt.

(ii) *The Royal Bank of Canada*

The Royal Bank branch office (at Port-au-Prince) operates as an independent commercial bank without the right to issue notes. It makes loans, accepts demand and savings deposits, and performs other banking services. It maintains a deposit at the National Bank for working purposes, and keeps substantial amounts of U.S. currency in Haiti, but the bulk of its assets are held in the New York office of the Royal Bank. No figures are published on its operations in Haiti; a monthly summary of the assets and liabilities for the years 1946 to 1948 was computed from the Bank's records, however, and is given in charts VI and VII. No data were available for previous years. For comparability with the charts on the National Bank, the Royal Bank's liability for letters of credit outstanding has been omitted from the liabilities side, and the contra item for customers' liability on letters of credit has been omitted from the assets. It will be noted that, like the National Bank, the Royal Bank is very liquid, its total loans being very small relative to deposits.

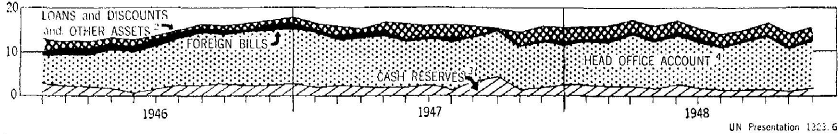
(iii) *Fractional Currency*

Some 7,245,000 gourdes of fractional coinage are outstanding, composed of 7,000,000 in nickel and 245,000 in copper. In fact the copper has virtually disappeared from circulation, as its bullion value has become greater than its nominal value. Prior to the 1947 Internal Loan coins held by the National Bank in excess of the needs of circulation were offset by segregating a part of the Government's deposits at the Bank into a separate account which could not be drawn on; in addition a further sum, enough to provide a total reserve of 50 per cent of the issue (3,622,500 gourdes) was set up on the books of the Treasury and in effect was held

[1] These transactions are described in detail in chapter VI, Problems of Public Finance.

Chart VI.—Assets of the Royal Bank of Canada in Haiti,[1] 1946-1948

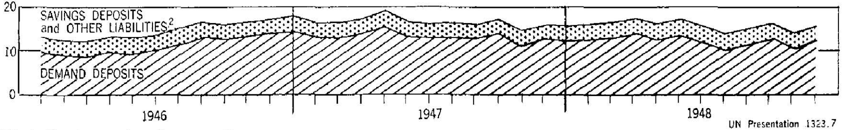
(in millions of gourdes; 1 gourde = $0.20 U.S.)



[1] Excluding customers' liability on letters of credit outstanding.
[2] "Other assets" being negligible.
[3] Cash on hand and due from banks.
[4] Net amount due to head office and other branches of the Royal Bank of Canada, virtually all due from the New York branch.

Chart VII—Liabilities of the Royal Bank of Canada in Haiti,[1] 1946-1948

(in millions of gourdes; 1 gourde = $0.20 U.S.)



[1] Excluding letters of credit outstanding.
[2] "Other liabilities" being negligible.

as part of the general cash balance of the Government. This practice has now been modified in that a substantial part of the reserve has been invested in the 1947 Internal Loan.

Any increase in the fractional currency issue must be made through the National Bank, and the profits of the operation must be used to set up a reserve of at least 33⅓ per cent of the new issue. If the profits are insufficient the reserve must be brought up to this level nevertheless, but if the profits raise the reserve to 50 per cent the excess may be put at the disposal of the Government. An increase in the issue is now under consideration. The figure of five million gourdes was first proposed, but demands for coin have now fallen off, and it is not yet decided how large the issue will be; a figure as low as one million gourdes has been suggested in some quarters.

(iv) *The Money Supply*

The banking statistics published are incomplete and are not sufficient for extended analysis over past years. A summary statement of the position of the National Bank has been published each month since August 1935 in the monthly bulletin of the Fiscal Department of the Bank, and the content of this statement has recently been improved by giving some additional details, but there is no published information on the Royal Bank of Canada. In its annual report the Fiscal Department of the National Bank[1] has published monthly figures for the note issue; in addition it has published combined figures for the two banks for deposits (distinguishing between deposits of individuals and deposits of the Government) and for loans and discounts (distinguishing between loans within Haiti and loans abroad). No distinction is made between demand deposits and savings deposits in any of the published figures, the deposit figures in the annual reports do not include all the demand liabilities of the banks, and in general there is insufficiency of detail limiting the usefulness of the data.

In order to overcome these difficulties, in part at least, material was gathered from the two banks on a monthly basis for the years 1946 to 1948, in the form of summary balance sheet statements compiled from their files; these data were the basis of charts II to VII, inclusive. Information is not available in Port-au-Prince for the Royal Bank for earlier years, though it is available for the National Bank. Chart VIII presents a computation of the money supply for the years 1946 to 1948, computed from the same

[1] Until 1933 these annual reports were published by the Financial Adviser and Receiver General, and from 1933 to 1941 by the Fiscal Representative.

Chart VIII.—Domestic Money Supply, 1946-1948

(in millions of gourdes; 1 gourde = $0.20 U.S.)

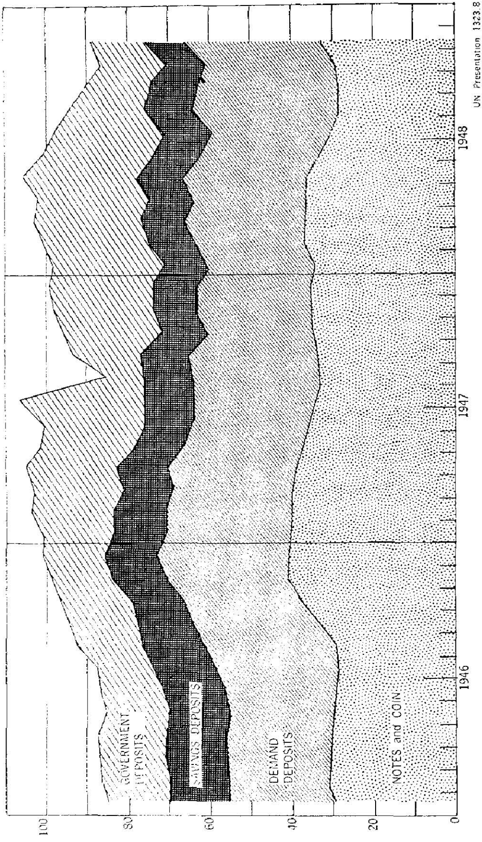
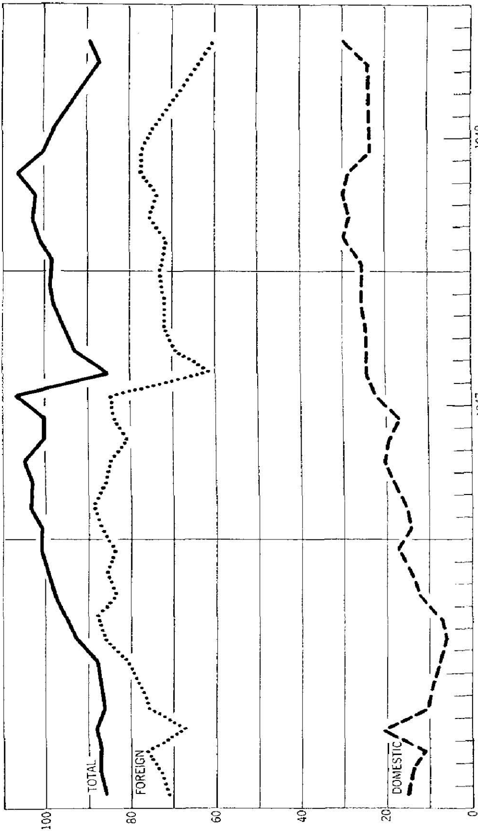


Chart IX.—Origin of the Money Supply, 1946-1948

(in millions of gourdes; 1 gourde = $0.20 U.S.)



material.[1] In chart IX the origin of the total money supply from chart VIII is shown—that is, the portion of it deemed to be based on accumulated foreign exchange, and the portion deemed to be of domestic origin.

In view of the absence of satisfactory data for the extension of chart VIII back to earlier years, it is necessary to fall back on less satisfactory material. Chart X, covering the years 1927 to 1948, is based on the figures published in the annual reports of the Fiscal Department of the Bank, the shortcomings of which have already been mentioned. The data are plotted for the end of March and August of each year, these months being the approximate seasonal peak and trough, respectively. Incidentally, the fact that these figures do not distinguish savings deposits from demand deposits is an additional reason for including savings deposits in chart VIII, in order to give greater comparability. An estimate of the amount of U.S. currency in the hands of the general public as at 30 September is given each year in the same annual reports and has been added to the Chart.[2] It must be realized, however, that this estimate is very tentative and must not be used with any precision. It does indicate, nevertheless, that foreign currency is a relatively

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[1] It will be noticed that the grand total in chart VIII includes both savings deposits and Government deposits. It is usually customary to define the money supply as including only notes, coin, and deposits subject to cheque, but it may be suggested that there is no one single figure which is entitled to be called "the" money supply. If one is interested in computations which involve the use of money in relationship to prices, the volume of transactions, etc., then the narrow definition which limits the money supply to notes, coin, and demand deposits is obviously the proper one to use. On the other hand, modern developments in monetary theory emphasize the position of money and money substitutes in relation to income levels, consumption habits, the level of investment, the country's balance of payments, and other magnitudes. In such an approach the distinction between demand deposits and savings deposits becomes of much less importance, and something may even be said for considering the level of the public's holdings of Government bonds in conjunction with the money supply, at any rate in countries where the banking system is committed to supporting the Government bond market.

Government deposits are also usually excluded from computations of the money supply, mainly because Governments are normally influenced by considerations of a very different nature from those on which individuals and business base their action, and also because in many countries the effects of temporary transfers of cash balances from the private sector of the economy to the Government are offset by central bank credit policy. In Haiti the Government's conservative budget balancing practices, which leave little room for the special considerations which motivate Government holdings of bank balances in other countries, and the fact that there has never been much of an active credit policy on the part of the banks to offset the shift of deposits between the private sector and the Government, mean that the usual reasons for excluding Government deposits from the money supply carry less weight. Especially since we are here concerned with the relationship of Haitian financial structure to the general economy, therefore, it seems appropriate to use a figure which includes both savings deposits and Government deposits in addition to the money supply as usually defined.

[2] This estimate as at 30 September has been added to the August figure. For March no estimate is available, but figures have been interpolated on the arbitrary assumption that they bear the same ratio to the August figures of the same year as total Haitian notes and deposits for March bear to those for August.

small part of the money supply, in contrast to the situation in some other Latin-American countries.

Chart IX suggests that, for the years 1946 to 1948, money of foreign origin has been vastly more important than money of domestic origin,[1] though it has tended to decline somewhat in the latter part of the period, whereas money of domestic origin has tended to increase. A good deal of this relative shift is to be explained, however, by the retirement of the 1922/23 foreign loan, which, as already mentioned, was largely paid off out of the Bank's holdings of foreign exchange; the Bank subscribed to about ten million gourdes of the new issue, whereas it held only about 2.6 million gourdes of the old issue.

It is impossible to make a satisfactory computation of the money of foreign and domestic origin for years prior to 1946. The best that can be done is to give the total monetary liabilities of the National Bank, and to distinguish in the total the portions which are of foreign and domestic origin respectively. This is done in chart XI, from which it will be seen that the liabilities of foreign origin have been predominant. Indeed, the foreign assets of the Bank have at times exceeded its monetary liabilities, especially between 1932 and 1935. It should be mentioned, however, that the loans and investments of the Bank have generally exceeded the credit figures here given, since its disposable assets exceed its deposit liabilities by the amount of its capital, surplus, reserves, and miscellaneous liabilities.

It will be noted that charts VIII, IX, X, and XI show some effects of the two transactions already described in connexion with the balance sheet of the National Bank, namely, the drop in Government deposits and in money of foreign origin at the time of the loan conversion in 1947, and the somewhat similar change at the time the Bank was bought by the Government in 1935.

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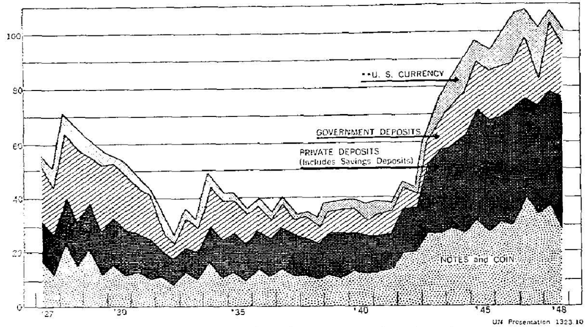
[1] It has nowadays become common, following Mr. Robert Triffin and others, to distinguish between that portion of the money supply which is of foreign origin and that which is of domestic origin; this has been done in chart IX, already mentioned. For this purpose it is customary to define the money supply to exclude savings deposits, though Government deposits are sometimes included. The country's total foreign exchange reserves are then assumed to be the explanation of the origin of an equal amount of the money supply, and the balance is attributed to domestic credit creation. This procedure is, of course, quite arbitrary: among other things it implies that no cash reserves are maintained against savings deposits, despite the fact that these are frequently a very close substitute for money. Since the level of savings deposits is undoubtedly closely linked to the level of the money supply as narrowly defined, and for the reasons already mentioned, it seems advisable to include savings deposits in the present computation; in fact, as already noted, there is little choice so far as years prior to 1946 are concerned, because savings deposits cannot be separated from demand deposits in the published figures.

Chart X.—Estimated Money Supply, 1927-1948*

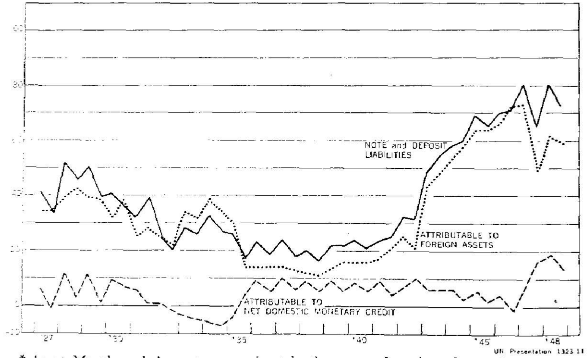
(in millions of gourdes; 1 gourde = $0.20 U.S.)



* As at March and August, approximately the seasonal peak and trough.
** Estimated holdings of the public.

Chart XI.—The Banque nationale de la République d'Haïti, Monetary Liabilities and their Origin, 1927-1948*

(in millions of gourdes; 1 gourde = $0.20 U.S.)



* As at March and August, approximately the seasonal peak and trough.

To judge fully the implications of these figures it would be necessary to have a number of price indices of various kinds. No official indices of such nature being available, however, a rough computation of the cost of living for the years 1940-47 has been made on the basis of data obtained from Port-au-Prince offices of two private companies. This estimate leaves much to be desired in its make-up, although it is of some use provided it is applied with due caution. As a matter of fact, the changes in most of the prices were roughly equal, so that the shortcomings of the weighting system would not make too much difference. For what they are worth, the figures are as follows:

Index: December 1940 = 100

December	1941......114	December	1945......159
"	1942......129	"	1946......168
"	1943......143	May	1947......179
"	1944......159	August	1948......189

Further rough calculations from the same source indicate that there were no great price changes between 1938 and 1940.

(v) *Private Money Lending*

Very little is known of the amount of money lent by private persons. One private lender stated that his loans ran as high as 750,000 gourdes at the peak of the season; he thought, however, that there were not more than three or four others in the country whose loans approached that figure. He made large numbers of consumption loans to small-salaried people, but the bulk of the monetary value was in loans to merchants who could not get the credit they wanted at the banks. His interest charges ran from 2 per cent to 3 per cent per month up; small consumption loans were higher, due to the risks and costs involved.

Though no reliable relevant statistics exist, there is plenty of evidence of the fact that much lending goes on at exorbitant rates of interest. Responsible bankers and businessmen testify that salaried people who need loans for medical expenses or other emergencies must go to moneylenders who commonly charge 10 per cent per month, unless they can find a friend whose credit is good at the bank and who will endorse their note, or who has some money of his own to spare. Employees thus frequently incur loans they cannot ultimately repay; each month they pay the lender something, but may come to find that although they have more than repaid the amount of the loan in interest they still owe as much as ever.

Abuses also occur in dealings between country people and the middlemen who buy their coffee and other produce on behalf of or for resale to the exporters. The farmers sometimes want a cash advance some months before the crop comes in, and will agree to repay in coffee. These loans would normally cover a period of three to six months, and the rate usually works out, it appears, to at least 50 per cent simple interest over the period. It is complained, too, that in order to settle the loan the borrower must sell his coffee as soon as it is gathered, when the price is usually low, and cannot hold it off for a better price. The middlemen for their part assert that they do not like to make these loans, that they make them only to hold their customers, that they lose money on them because of the high percentage of bad debts, that if they are repaid at all it is only with the last scrapings of the coffee beans at the end of the season, and so on. It is doubtless true that the risk premium is high in these transactions, as in the case of consumption loans. The amounts involved in most loans are small, often not over fifty or one hundred gourdes.[1]

The country people also complain of sharp practices in mortgage lending. Many own their own land, and in times of need will borrow on its security; the lender may be the middleman who buys their crops, or someone in one of the towns who has idle money. For legal reasons the lenders prefer a *vente à réméré* contract (a sort of sale and repurchase agreement), and it is alleged that they will often cheat the borrower who comes on the appointed day to repay the loan by keeping out of sight until after the close of business; once the day is over and the money remains unpaid they take title to the land, often at a fraction of its worth.

2. Analytical Commentary

(i) *The Problems of an Export Economy*

There are two main problems faced by a country such as Haiti, which earns a substantial part of its income through the sale of a relatively small number of foodstuffs or raw materials on world markets: the problem of stability, and the problem of development. The domestic economy is vulnerable to the effects of cyclical and other disturbances arising abroad, and the resultant disturbances in domestic income are usually much greater (in relative terms) than in more diversified and self-contained economies. In addition there are often promising though undeveloped resources; capital and initiative for their development may be lacking for any of a great number of reasons, yet such developmental activities may offer the best prospect of a more stable economy and a better standard of living.

[1] It appears that the middleman does not commonly perform the additional function of a storekeeper. One enterprising middleman interviewed did run a general provision store, and tried to do a two-way trade, but he said not many others did so.

(a) *Stability*

Economic disturbances are usually spread to export economies by either (*a*) changes in the prices of their exports, or (*b*) changes in the rate of capital investment in the country, and the second is generally closely related to the first. The raw materials and foodstuffs exported by countries like Haiti (coffee, sugar, sisal, cotton, etc.) are normally subject to greater price fluctuations than most other commodities, and therefore in times of rising prices the money incomes of those Haitians producing these things rise more, proportionately, than the incomes of other members of the community. Conversely, when prices are falling the money incomes of those producing for export are sharply curtailed. For example, Haitian coffee producers found their incomes falling abruptly when the coffee markets were disrupted in the late 1920's and early 1930's, and again in 1937, but rising rapidly as prices advanced at the end of the war, and especially after the end of price control in the United States. In either case there are repercussions on the rest of the community: as the producers spend their increased income it gives more work and income to others, and as they curtail their expenditures it means less work and income for others.

The cumulative effect is spectacularly illustrated in chart I (see part II, chapter IV); as export income dropped markedly after 1928, imports fell equally. Since imports are almost entirely composed of consumption goods the chain of cause and effect is clear: decreased export earnings brought about a sharp reduction in money incomes, and reduced money incomes brought about reduced consumption, particularly of import goods. With the recovery of exports after 1940 the reverse occurred: increased incomes, increased consumption, and increased imports.[1]

Similar effects are brought about by capital movements. If new capital investments are made in the country, say through import of capital from abroad, as for example in the case of the public works loan of 1938, or the *cryptostegia* programme and the SHADA projects during the war, the expenditure of these sums on construction and other projects similarly gives rise to new money income in Haiti, and other Haitians benefit in turn when this new income is spent by those who receive it. If the investment programme is suddenly stopped, the opposite effects occur.

Whether the disturbance comes from changes in export prices or in capital investment, it will be the more serious the more sudden it is; the more time that is available for adjusting to the new conditions, the easier it is to minimize the secondary effects and to change the direction of the

[1] A part of the variation in exports and imports is to be explained by mere changes in prices rather than in the physical quantity of goods traded, but it is clear that there were sharp variations in physical volume also.

productive effort of the people. Anything that increases the amount of the change that must be made in a given time, therefore, makes the adjustment more difficult.

(b) *Development*

Economic development in countries like Haiti has two main objectives: the diversification of production, in order to make the country less vulnerable to cyclical and other disturbances, and the expansion of the national real income, in order to raise the standard of living of the people. Such countries usually offer some prospects for the establishment of other industries in addition to the dominant export industries and the obviously necessary food-crop and service industries; they may be new export industries or they may involve the local production of goods formerly imported.[1] In addition, it will usually be possible to increase the productivity of existing industries by various capital and other improvements. The main requirements for these developmental projects will be an imaginative approach to the latent possibilities, sound technical judgment in selecting the most appropriate projects and in bringing them into operation, and adequate capital to carry them out. The widespread disguised unemployment which obtains, particularly among the rural population, points to abundance of potential manpower for new productive enterprise. Protracted training and education are commonly involved, however, in the effective utilization of these labour resources.

(ii) *Inflationary and Deflationary Disturbances*

Domestic credit inflation in times of rapidly expanding and deflation in times of contracting exports may aggravate the disturbances inherent in wide fluctuations in export income. In a country whose currency law stipulates a minimum cover reserve of, say, one-third of the central bank's sight liabilities (i.e., notes and sight deposits), the bank may, in principle, by extending credits in the double amount of the exchange reserve raise the total of its sight liabilities to the legal maximum of three times the exchange reserve. If developments in the country's export markets then cause its balance of payments to turn unfavourable and its exchange reserve to decline, the credits outstanding have to be reduced by twice the amount of the contraction of the exchange reserve and the currency supply (in the limited sense here considered) by three times that amount. Such movements can do much harm to the economy of the country by greatly increasing the degree of adjustment that must be made in a given period of time.

[1] The term "industry" is here used in the broad economic sense of productive activity.

In Haiti somewhat narrower relative limits for the possible movements of this nature are set by the existing currency regulations stipulating a one-third minimum cover in foreign exchange with reference only to the initial twenty million gourdes of the note issue, a cover of 100 per cent for all notes in excess of that amount and no specific cover for the deposits of the National Bank. The principle of fixing legal cover requirements in terms of a ratio is not very well suited to a country with an economic structure such as Haiti's. At no time in the past, however, has the National Bank of Haiti used even as much as half its foreign exchange holdings as a basis for domestic currency creation.[1] The highly conservative lending policies of both banks in Haiti, while playing a part in domestic deflation in times of export contraction, have been so generally restrictive as not to have given rise to domestic credit inflation proper in times of expanding exports, nor to have contributed in noticeable degree to the economic development of the country. Such price rise as has occurred during and after the war has been essentially of external origin. It is interesting to note in this connexion that judging by the index given on page 247 above and allowing for the roughness of the calculation, the price rise in Haiti from 1940 to 1948 is not far out of line with that in the United States, its principal customer and supplier.

Internal inflationary disturbances may, of course, arise also from other factors. The history of many countries in Latin America and elsewhere is replete with instances of domestic inflation caused by Government deficits covered by borrowing from the banking system, or caused by private speculative booms or overly ambitious private development projects similarly financed. In recent decades no such factors would seem to have been at work in Haiti to a degree involving distinct inflation. As emphasized above and elsewhere in this report, there has, if anything, been general lack of developmental initiative, and reference to chapter VI, Problems of Public Finance, will show that Government deficit financing is a concept unknown in actual practice in Haiti for some twenty-five years past.

(iii) *Monetary and Fiscal Policies*

The Haitian monetary system is an almost perfect example of the classical gold standard mechanism modified only in the sense that U.S. dollars have largely, if not exclusively, taken the place of gold. Hence, in Haiti, the variations in money supply are linked automatically, as it were, to variations

[1] Consequent upon the recent substitution of securities, discounts and loans for foreign exchange holdings among the assets of the Bank, somewhat more than half of the reduced total of gold and foreign exchange was actually held in the note cover reserve at the end of 1948 (cf. table 10B, page 233).

in the dollar balances following the movements of external trade. Nowadays, however, it has become widely recognized that, whereas blind acceptance of the automatic responses demanded by the somewhat obsolete "rules of the game" of the classical gold standard may in certain circumstances cause unnecessary damage to domestic economic activity, well-chosen alternative policies can aid economic development and assist in mitigating the extremes of cyclical variations. It is customary to speak of these alternatives as the use of "monetary policies", meaning, in brief, the conscious influencing of the level of bank credit in accordance with considerations of the over-all effects on the economy.

In inflationary times the banks can and should do much to prevent over-expansion that results only in price rises without any real increase in production. When deflationary forces are dominant, however, in a country as dependent on extraneous price developments as is Haiti, with its confined and little diversified economy, it is not always possible for the banking system to offer much help, so long as the banks confine their lending in the main to the financing of commercial transactions related to the external trade, as is true, broadly speaking, of the banks in Haiti. On theoretical grounds one can advocate that the banks should be much more lenient in granting loans, but in fact it may be difficult if not impossible to find sound loans that can be made in such times within the traditional field of operation of the banks. In practice they can do little more than exercise restraint in calling in existing loans when the debtor has trouble making payment. Something more positive than this is needed, however. Deflation can only be combated by active measures to put money into circulation; examples would be financing by the banks of programmes of agricultural development, industrialization, and public works. More generally, it is usually found that monetary policies are not sufficient in themselves and must be supported by fiscal policies varying the level of governmental revenues and expenditures according to considerations of the over-all effects on the economy rather than considerations of the desirability of each tax measure or each item of expenditure on its own merits alone, and without insisting that strict balance in respect particularly of capital expenditure be necessarily achieved in each yearly budget.

It is necessary to stress, however, that in an export economy like Haiti's, contracyclical monetary and financial policies are subject to narrow limitations. If the export markets turn unfavourable Haiti cannot prevent a very real loss of income reflecting the loss in foreign purchasing power suffered on exports.

Nevertheless, well-conceived internal policies may be able to do two things to moderate the impact of such a loss. Firstly, they can do much to bring about equitable sharing of the burden of the loss of income as between the different groups of the community so as to obviate the concentration of this burden on those who grow the export crops. Secondly, they can do much in the way of preventing the primary and unavoidable loss of income, due directly to the price fall in the export market, from producing a secondary and quite unnecessary deflation of domestic incomes.

To mitigate the swings of the business cycle it is possible in the first place to apply reasonable restraint on the granting of bank credit in boom times and to lessen the restraint in slack times.[1] In the second place, as already pointed out, the requirement of annual balancing of the budget may be modified. If owing to slack times receipts fall off sharply, the Government may well be justified in allowing expenditures to exceed current revenues[2] provided it is equally prepared to budget for a revenue surplus in boom times when the countering of inflationary pressures by fiscal measures may be called for in the interest of economic stability. Some tax measures automatically contribute to such a policy; for example, the yield of a graduated income tax is greater in good times when money incomes are high, and less when times are bad. On the whole, however, and at any rate in the case of anti-depression policies it is easier to make the adjustment through the expenditure side. In boom times encouragement should be given, in principle, only to highly promising capital development projects, the Government contribution to which should then be paid for from current revenues so far as possible; in slack times less urgent projects may be undertaken in order to maintain domestic incomes, and may then be financed mainly if not wholly by borrowings.[3]

[1] As remarked above, it would appear that both banks operating in Haiti have tended to exercise too great a restraint on the granting of credits for developmental activities in good times, while in slack times they have refrained from even attempting to mitigate the contraction of activities by liberalizing their conditions for credit grants for such purposes.

[2] The deficit may be financed, in part at any rate, by borrowing from the banks. In order, however, to offset the adverse effects on foreign exchange reserves, it might prove desirable to finance it at least in part by subscriptions from the general public, through diversion of private expenditures from imported consumption goods to the purchase of Government bonds.

[3] Certain Latin-American countries, dependent on export markets in the same way as Haiti is, have used such policies with success in recent years. Colombia, for example, achieved remarkable success in counteracting the initial crisis brought on by the disruption of the coffee markets on the outbreak of war in 1939, and, when an opposite situation developed after the entry of the United States into the war, waged an anti-inflationary fight contrasting with the passive acceptance of a similar situation in the 1920's. Though Colombia was not able to prevent a substantial rise in the cost of living after 1941, the increase was significantly restrained by the policies that were applied to counteract the inflationary effects of the foreign exchange inflow.

(iv) *Development Promotion*

Suitable financial policies and institutions can contribute materially to the promotion of economic development by mobilizing the existing financial resources of the country in a way that will permit their most effective use and by encouraging the productive investment of private capital (both Haitian and foreign). Fiscal policies may be made to serve developmental purposes by influencing the direction of economic activity. One example would be fiscal encouragement of efforts to improve the quality of certain export products. Similarly, diversification of the agricultural production can be encouraged by tax differentiation, alleviations, and subsidies.

The investment in Haiti of foreign private capital may be encouraged by offering terms that are attractive for the initiation of new activities without being overly generous or granting undue favours. Once the inducements have been agreed upon, the capital should be left to operate under the conditions set, undisturbed by capricious changes detrimental to confidence.

Certain reforms of the commercial laws to render them simpler and more effective tools for enforcing contracts, for ensuring the payment of obligations (such as promissory notes and bills) at maturity, and so on, are called for, and there is need for an enforceable chattel mortgage, non-existent in Haiti at present. The absence of chattel mortgages obviously handicaps most severely any institution wishing to grant industrial credits for the acquisition of capital equipment.

(v) *Financing Development*

The sources from which Haiti's economic development can be financed are primarily (1) the tax revenue of the Government, (2) voluntary savings by the people out of current income, (3) direct or equity investments which foreigners can be induced to make within the country, (4) loans which can be raised abroad, and (5) the use of existing foreign assets that have been accumulated in the past, including, for example, any foreign exchange reserves which are deemed to be in excess of reasonable requirements.

In chapter VI, Problems of Public Finance, it is concluded that no substantial new taxation is to be recommended at this time, and although it appears possible in principle to allocate to developmental purposes a larger portion of the current revenues than is so allocated at present, this would mean a reduction in expenditures for other purposes. Present conditions obviously impose narrow limits to any such reduction.

Voluntary savings out of current income do not offer much prospect of any large contribution to developmental finance. No data are available on the annual rate of saving, but the low incomes of the bulk of the popula-

tion, the paucity of business enterprises, and the fact that there are relatively few wealthy families, suggests that the portion saved from the meagre national income is small; for it is usually found that in an under-developed country the saving is done by business and by the well-to-do. Nevertheless, the logical implication of Haiti's need for development is that saving should be encouraged to the utmost, and channelled into productive investments; the fact that savings are small is no reason for neglecting them, but on the contrary is all the more reason for efforts to increase their size and to apply them most effectively. In this connexion it must be noted that the Haitian situation is clearly anomalous. The Royal Bank pays no interest on savings deposits, and the National Bank pays only 1½ per cent on balances of fifty to 5,000 gourdes, the rate declining progressively to ¼ per cent on balances in excess of 25,000 gourdes, for the avowed reason that sufficient employment cannot be found for these funds in loans which meet the requirements as to term, liquidity, and soundness. Both banks maintain comparatively large deposits in New York, and the National Bank in particular keeps very substantial sums in U.S. currency on hand; in effect this means that Haiti, itself in need of capital, is lending abroad a large proportion of what accumulated liquid capital it has.

In order to encourage saving, devices such as bonus interest for regular increments of savings accounts might be used, and possibly some adaptation of the capitalization plans used in other Latin-American countries. These plans generally involve a contractual agreement on the part of the individual to pay regular amounts at stated intervals, in return for which he receives a capital sum at the end of the contract period (usually several years). In addition there is often a lottery feature, the effect of which is to make it possible for the individual to receive his capital sum, fully paid up, in advance of the stipulated date. Like most things in this world, capitalization schemes can be and have been abused; properly devised, however, they might do much to encourage thrift. The lottery element may be regarded as a device for paying a bonus rate of interest in the form of the chance of a capital gain.

As part of the plan to stimulate savings the establishment of a postal savings system may be considered, with a view to offering to people in all parts of the country the opportunity of access to a depository for their funds. Such a system might make a valuable contribution to the effort to increase saving; even if the results were not great in the early years, it might prove useful in educating the public to the use of deposit institutions instead of hoarding their savings in cash or investing them in land or animals.

Efforts may also be made to develop the Government bond market in Haiti. It appears that a not inconsiderable quantity of Government bonds

is already held by Haitians, and the conservative financial record of the Haitian Government for many years past should be of material assistance in creating a wider market for such issues. Undoubtedly the market would be relatively narrow, at any rate to start with, and therefore provision would have to be made for an active price stabilization policy. But it might be expected that the creation of a relatively stable bond market would encourage people to save and put their money into Government bonds by providing a safe, remunerative, and liquid vehicle for savings; the proceeds would then be available for developmental expenditures. Perhaps eventually a stock market could also be established, to give similar encouragement to investment in private developmental ventures, but this will have to await some further industrialization. An active stock market may make people more willing to invest, but it presupposes a certain degree of industrialization in order to provide a list of stocks for trading.

Some increase in saving may be induced by restricting expenditures on luxuries, to which end undisputed luxury goods may be subjected to relatively heavy taxes. In general most luxury goods consumed in Haiti are imports, so that controlling and taxing them is not difficult. It must be noted, however, that the reason for restricting the use of luxuries is the desire to reduce consumption and thus induce saving, and the reason for taxing them heavily is that expenditure on luxuries gives rise to the presumption of taxable capacity which could be tapped for developmental expenditures. The "luxuries" must be carefully defined. For example, most types of passenger automobiles might properly be classed as luxuries, but trucks and cars to be used in productive activities should not be so classed. Again, French perfumes are unquestionable luxuries if imported for domestic consumption, but serve an essentially non-luxury purpose when re-sold to tourists, whom they help to attract.

The third source of developmental finance mentioned was investments that foreigners might be induced to make in Haiti. Something has already been said about this in the preceding section; here it is only necessary to repeat that it will be well worth Haiti's while to offer assurances that fair and reasonable profits will be permitted on productively invested capital, for well-planned private investments will add more than enough to Haiti's national income to cover these profits, which are likely, moreover, to be reinvested in part, in response to the encouragement given to that effect through tax relief on such re-investment (see public finance chapter). For a country receiving foreign capital in the form of direct investment or equity investment this has the signal advantage that the foreign capital shares on the same footing as the domestic capital in the ups and downs of the country's business: in good times when the profits are likely to be

good, their transfer abroad in whole or in part need not meet with particular difficulties, while in slack times, when transfer difficulties may arise, the profits are likely to be small or indeed non-existent.

In addition to direct investment, involving active participation in organizing production, technical assistance and supervision, etc., which foreigners may be induced to make in Haiti, money might be borrowed abroad for development projects. The projects for which such funds are borrowed must, of course, be economically sound if the burden of interest charges and capital repayment is not to be a drain on future income. Loans floated independently on foreign capital markets (especially New York) need not be ruled out altogether, though for various reasons conditions do not look too favourable for such loans at present. It is also possible sometimes to arrange credits on fairly long terms through the suppliers of particular items of capital equipment. In general, however, it is probable that Haiti will have to depend largely on loans from international sources or from official or semi-official lending agencies of creditor countries. Examples of the past include loans from the United States Export-Import Bank, such as those negotiated in 1938 and 1941, and the one recently announced in connexion with the Artibonite Valley project. The International Bank for Reconstruction and Development appears in principle to be another possible source if Haiti should become a member, as does the proposed Inter-American Bank. An incidental advantage of loans from such institutions is that they involve independent review and appraisal of the purpose for which the funds are sought, as well as technical advice, thus providing an additional safeguard against incurring unproductive debt. A number of industrial countries also have export credit plans under which they will sometimes give extended credit for capital goods.

Finally, Haiti may be able to finance a certain amount of development out of accumulated foreign assets. As at 31 December 1948, the National Bank held 37.3 million gourdes ($7.5 million) in gold bullion and dollar assets, including balances with United States banks, against total note and deposit liabilities of 69.6 million gourdes. On 30 November 1948, the Royal Bank in Port-au-Prince had 10.4 million gourdes ($2.1 million) to its credit with the head office and other branches abroad, virtually all of this being with its New York office, in addition to several hundred thousand dollars of U.S. funds in till money in Haiti and a small amount of foreign bills, against total deposit liabilities of 15.8 million gourdes. In addition it is estimated that the U.S. currency in circulation in Haiti in the fall of 1948 was equivalent to some four to eight million gourdes ($0.8 million to $1.6 million). It is quite possible that private persons in Haiti (including business firms) hold not inconsiderable bank balances and other assets abroad, partly

perhaps for safekeeping in case of political trouble,[1] but very little is known of such holdings. Comparing known data regarding the two Haitian banks with the figures given in the United States Treasury Department's census of foreign-owned assets in the United States as at 14 June 1941, and in the United States National Advisory Council's reports, it would appear that private persons resident in Haiti held something like $2 million in United States assets as at June 1941, June 1947, and December 1947; virtually all of this appears to have been bank balances.

The question whether some part of the foreign exchange holdings of the banks could not be released for use in one way or another in financing capital development is considered in a subsequent section. Mopping up of dollar notes in circulation in Haiti and substitution of gourdes for them could be undertaken for the same purpose. As for inducing Haitians with balances abroad to repatriate them, thus giving the country added U.S. dollar resources, that will depend largely on the confidence these individuals can be made to feel in the political and financial stability of Haiti.

In times of depression and deflation it is true that a special case exists in which developmental expenditures will expand real income by putting otherwise idle resources to work, and can be financed to some extent by new bank credit; in effect the credit expansion will create a part of the additional real savings necessary to finance the programme. When there is clear evidence that strong inflationary pressures already exist, however, any further credit expansion would only add to them with little or no increase in real income; under such circumstances any attempt to finance development in this way becomes a combination of taxation and forced savings. The serious disadvantages of rapid inflation are so well known as to need no elaboration[2]

Developmental projects may very properly be pushed as contracyclical measures in times of deflation and depression, yet it will usually be impossible to wait for a depression before starting a development programme; a start must be made even in good times, so that some of the advantages

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[1] Bank officials state, for example, that a considerable amount of money was moved out of the country during the political disturbances of 1946.

[2] In this connexion it may be well to observe that there are some subtle forms of inflationary finance which may not at first be recognized as such. Direct borrowing from the Bank, whether this resulted in an increase in the note issue or an increase in bank deposits, would be quickly recognized as inflationary. Exactly similar results would follow, however, if the project were financed by drawing down previously idle bank balances, as for example, if the Government were to reduce its bank balances rapidly in order to cover its expenditures. In general any expenditure which results in a net increase in money in the hands of the public, or which increases the money income of the public, is inflationary unless it is accompanied by an immediate and equal increase in goods available for purchase by the public.

will accrue when slack times come, in the form of greater internal economic stability and greater independence from disturbances that originate abroad. Even at the expense of some (moderate) increase in inflationary pressures, therefore, certain of the more urgent and more promising developmental projects should be proceeded with regardless of the existing phase of the business cycle. When bad times come, as they undoubtedly will come again, it will then be possible to press on with other and less urgent projects.

(vi) *The Exchange Problem*

For a generation Haiti has not had an exchange problem, inasmuch as the gourde has been stable in terms of the United States dollar. Exchange reserves have not fallen below legal requirements, and at no time has there been need for exchange control. The gourde is generally considered to be linked so rigidly to the dollar as to be almost identical with it. Yet it is not because a fixed ratio was provided by law that the exchange value of the gourde has remained stable; this result could have and has in fact been achieved only by continuously gearing Haitian monetary and fiscal policies to the maintenance of that exchange stability. The classical method by which a country obeying the rules of the gold standard meets a balance of payments problem such as is created when export incomes decline is to let money circulation and domestic money incomes decline accordingly until purchases from abroad are reduced enough to restore the balance in the international accounts. Most countries that have sought escape in one way or another from the rigidity of these rules have done so because circumstances arose in which they refused to accept the effects on their internal economy which unyielding maintenance of exchange stability required.

If policies such as those discussed in the preceding section were to be applied in Haiti, strains on the exchange could not be escaped under certain circumstances; this is the most important limitation on such policies in an open economy, and a very serious limitation at that. If contracyclical policies are applied to maintain Haitian incomes in the face of a depression in its export markets, the result will be to maintain expenditures on imports as well as on domestic goods at levels above those to which they would have otherwise fallen. In the face of the decline in export earnings, a drain of exchange reserves is virtually inevitable. Similarly, any developmental expenditure that resulted in an increase in inflationary pressures with the increase in production lagging behind would tend to increase domestic money income and therefore cause an increase of imports and a drain of exchange reserves.

Haiti has eluded the exchange problem by simply allowing deflation to go along unhindered when the export markets turned unfavourable. If measures are taken to combat deflation, then an exchange problem arises. If it is believed that the disturbance is only temporary, it may be sufficient to allow the country's exchange reserves to be drawn upon without taking any other measure; but if it is believed that the disturbance will last for some time, or if the exchange reserves are reduced to an alarming extent with no signs of abatement, then steps of some kind must be taken to bring imports into harmony with exports. Of course, if it is decided that deflation is the better choice, imports will be reduced to concord with exports but the internal distortions already described will be entailed.

An additional factor must also be mentioned in this connexion, namely, the possibility of a flight of capital. If for any reason exchange restrictions, currency depreciation, or similar occurrences are anticipated, those with liquid capital will endeavour to "move it out of the country", which means that they will attempt to convert their capital into foreign currency. Obviously any such attempt will be an added drain on the country's reserves. If the capital flight is of serious proportions it can in the end completely destroy exchange stability. It is the one thing which deflation of domestic income is powerless to counteract; for the total amount of relatively liquid capital in a country is usually far greater than its exchange reserves, even if these are supplemented by its foreign exchange earnings over a considerable period of time. A capital flight may be instigated by political uncertainties, or by financial developments that may cause people to anticipate exchange difficulties possibly leading to currency depreciation. The Government and the monetary authorities must have adequate powers to combat such an emergency promptly if it arises, since even a short delay may be costly in terms of impaired exchange reserves. But the best protection against a capital flight is to prevent the development of circumstances in which it might arise: in other words to pursue political stability, to follow well-considered economic and financial policies, and to enlist public understanding of and confidence in what is undertaken.

(vii) *The Banking System*

The financial institutions of a country affect the economy in a peculiarly pervasive way, for good or ill, and therefore every precaution must be taken not to upset unnecessarily a system that has worked comparatively well. The monetary system in Haiti has proved resistant and has given the country exceptional exchange stability. Yet most countries nowadays demand more than exchange stability from the monetary system; they also demand internal economic stability, so far as feasible. Considerations of internal economic advancement and external exchange stability sometimes conflict with

one another, and such conflicts may come more to the fore in Haiti in the future. Improved internal stability should be of material assistance for achieving economic development in that direction. For these reasons it appears desirable to render the Haitian monetary system capable of allowing recourse in case of need to monetary and fiscal policy measures that can help to maintain internal economic stability and hence to promote economic development.

It must be acknowledged that there are considerable risks inherent in abandoning practices that have proved relatively satisfactory in the past and adopting new ones. Errors of judgment or the irresponsible use of new powers may result in the loss of the advantages of exchange stability, without compensatory gain in internal stability and development. Yet such risks have been taken with considerable success in other Latin-American countries faced with problems similar to those of Haiti.

Whether or not fundamental changes are made in the organization and operation of the monetary system, the regulations governing it should be examined with a view to their proper codification. It is highly desirable that a single comprehensive monetary law be substituted for the involved pattern of partly obsolete laws, contracts, agreements, and treaties under which the National Bank now operates. This law should incorporate the regulations concerning fractional coinage. Enactment of a general banking law setting out the rights, powers, duties, and responsibilities of firms or individual credit purveyors engaging in banking business in Haiti may also be considered. It should define *inter alia* the terms and conditions under which new banks may be permitted to open in Haiti; it might also lay down rules for reporting and inspection, as do most modern banking laws.

In view of the complexity of the matters to be considered, precise and detailed recommendations for banking reforms will not be proffered at present; for this purpose intensive study, with the help of experts experienced in solutions applied to these problems in other countries, is required. Here suggestions will be made only as to the type of changes that may be considered. These suggestions are based on the reform of monetary and banking laws which have been introduced into various other Latin-American countries in recent years—in particular Guatemala, Colombia, Paraguay, Ecuador, the Dominican Republic, and Cuba—and hence are founded on the practical experience of countries with problems more or less similar to those of Haiti; even so, it would be unwise to transplant them without further study of the particular needs of Haiti.

Intimate co-ordination of monetary and fiscal policies is generally recognized as a necessary condition for successful conduct of the financial

and economic affairs of any modern nation. In Haiti such co-ordination should be facilitated by the fact that the Board of Directors of the National Bank includes among its members the Secretary of State for Finance as co-president *ex officio*. If the Board is to shoulder wider responsibility than heretofore in playing its part in the realization of a more deliberate and active (or less passive) policy aiming at internal economic stability and economic development promotion, it would need to be broadened and strengthened, and also to be tied in, as it were, with the economic development advisory organization associated with the office of the President of the Republic as envisaged in the introduction to this report. Thus consideration should be given in due course to inclusion in the Bank Board of the Secretary General of the proposed National Resources and Development Board. Should the President of the Republic decide at some future date to appoint a personal adviser in financial and economic matters, this adviser might likewise be included in the Bank Board in some capacity to be defined. The Bank Board needs strengthening also by the addition of a number of members not in Government service, including persons with practical experience in agriculture, commerce, industry, and private banking, and others with broad general experience and sound economic judgment. A body of this size and nature would clearly not be appropriate for exercising functions of an administrative nature. These functions had better be delegated to a small executive board (comprising the executive directors of the Bank), leaving to the general board of the Bank the consideration of policy matters, together with general supervision. The members of the Executive Board should preferably be full members also of the General Board of the Bank.

A research and statistics service similar to those existing with the central banks in most other countries should be established and be charged with the responsibility of providing adequate statistics on monetary and related matters and with furnishing expert technical advice to the General and Executive Boards of the Bank. It might be organized around the statistical unit presently functioning in the Fiscal Department of the Bank, but it should be put under the Director-General and should service all departments of the Bank. The head of the service should attend meetings of the General Board in a consultative capacity. The nature of the statistics to be supplied need not be described in detail here, for in part these would depend upon what statistical data might become available in various Government departments: however, as a minimum, the Bank would need to have reliable figures on the money supply (with a detailed breakdown of its composition), estimates of the country's balance of payments for past years and a forecast for some time in the future, price indices, up-to-date figures on exports and

imports, and summaries of the monthly balance sheets of all important financial institutions. Information of this kind is essential to sound economic policy-making of any kind, and therefore it might be advisable to begin the organization of such an expanded service immediately.

Careful consideration should be given to the matter of exchange reserve requirements. Nowadays it is widely held that the requirements of the domestic money supply are normally distinct from the needs for foreign exchange reserves; the domestic money supply should be determined primarily by the needs of domestic trade, whereas the foreign exchange reserves are related to the needs of foreign trade (particularly to the possibility that exceptional needs for foreign exchange will arise, for which it is prudent to be prepared). It follows that the authorities should have the power to allow exchange reserves to fall (or *vice versa*) without affecting the domestic money supply, if they believe that this is necessary in the best interests of the economy. It is clear, however, that irresponsible application of these ideas is apt to bring on serious disturbances of a kind that a policy of disciplined emancipation from external influences is designed to forestall; it follows that provision of some safety limits is desirable to guard against such irresponsible actions, while allowing the flexibility of policy that is necessary if the internal economy is to be insulated from the excessive effects of disturbances from abroad.

Without offering any detailed suggestions at this time, it is recommended that early attention be given to the question of rendering reserve requirements—both as defined in the law and as applied in practice—less rigorous. The legal requirements may appear relatively moderate as long as the note circulation remains in the neighbourhood of twenty million gourdes, since no great amount of dollars is tied up by the stipulated minimum requisite of a cover reserve in that currency of 33⅓ per cent of the twenty million, i.e., 6.7 million gourdes. The stipulation that each gourde issued in excess of twenty million must be backed to 100 per cent by U.S. currency might, however, in combination with the provision of a 33⅓ per cent foreign exchange cover for the initial twenty million gourdes, tie up unnecessarily large amounts of dollars (or gold) in unproductive cover reserves in the event of a substantial expansion of the note circulation which is bound to take place *pari passu* with effective economic development.

It is not suggested that no reserve whatever in foreign exchange (or gold) be held against the note circulation; nor is it recommended that the principle of a legal minimum percentage ratio of such assets to total note circulation be substituted for the present cover principle. But some modification of the present legal provision in the sense, say, of fixing an initial fiduciary issue to be covered in full by eligible bills and loans and Govern-

ment securities,[1] the balance of the note issue to be covered in full by U.S. dollars or other eligible stable currencies, may well be considered. The limit of the fiduciary issue may subsequently be modified by amendment of the monetary law to take account of the evolution of the money circulation. What amount of foreign exchange the Bank should hold outside the backing of the non-fiduciary note issue would be a matter for its own judgment of the need of such media for other purposes including the foreign trade. No substantial changes in the monetary legislation should be introduced, however, without previous careful study and appropriate expert advice.

If fiscal policies are to be used to counteract cyclical disturbances, it will be necessary for the Government to borrow from the banks under certain circumstances. At present the Government's right to borrow from the National Bank is open to some question, and should accordingly be clarified. In order to keep such borrowing under control, however, it may be advisable to provide certain limitations on the Government's right to borrow; further consideration should be given to what form this limit should take (for example, legislative approval might be required for borrowing in excess of a given figure).

The General Board of the Bank will on occasion need powers to combat inflation as well as deflation. One such device that has been used with some success in other countries is the issue of so-called "stabilization bonds" and "participation certificates" by the central bank; the public is encouraged to buy these bonds with a portion of the money received when export markets are booming, thus sterilizing some of the inflationary effects. In Haiti power to issue such bonds and certificates might be given to the Bank.

It is common to find United States currency circulating more or less freely in many Latin-American countries, and Haiti is no exception, though U.S. dollars constitute a much smaller portion of the note circulation than in some other countries. However, virtually all bank deposits are denominated in U.S. dollars. Other Latin-American countries, faced with a similar situation, have taken steps to require the use of domestic currency in all domestic transactions.

For historical reasons mainly, the issue of coins is in most countries a prerogative of the Treasury. In several Latin-American countries the coinage has recently been put under the administration of the central bank, to give a more unified management of the money supply. In Haiti the coinage is a liability of the Government but is administered by the State-owned National Bank, and there is a fairly complicated system of accounts relating to it as

[1] The introduction in 1947 of Internal Loan bonds in the cover reserve was a step in the right direction.

a result of a past situation when an excess of coin was in circulation and had to be retired. There would be certain advantages in having the Bank take over the full liability for the coinage, to be managed much as it manages the note issue; to support this liability the Government could give the Bank a non-interest-bearing certificate of indebtedness equivalent to the face value of the coins outstanding. This change would fit in well with the revisions of Government accounting practices suggested in chapter VI, Problems of Public Finance.

In referring above to the desirability of undertaking a codification of the monetary laws, it was suggested that the institution of a comprehensive law regulating the conduct of banking business might be considered (see page 261). Most countries subject the banks to supervision to protect depositors against possible losses and also to ensure compliance on the part of the individual banks with the official monetary policies. Obligation to maintain minimum cash reserves against deposits is frequently stipulated. In view of the high degree of liquidity of the two banks now operating in Haiti there is no urgent need for stipulating specific reserve requirements with reference to their deposit liabilities. Stipulated minimum ratios of capital to assets at risk might be required in the case of new domestic banks if and when created. In lieu of share capital foreign banks operating in Haiti might be required to deposit with the Government a guarantee in the form of acceptable securities or other assets, or to maintain in Haiti acceptable assets bearing a stipulated ratio to deposit liabilities; since title to these assets would remain with the Bank this need not impair earning ability.

3. An Agricultural and Industrial Development Bank

No institution now exists in Haiti having power to make medium- and long-term loans to agriculture and industry, but the possibility of having such an institution set up is under discussion in banking circles. An institution of this kind should be designed to lend to agriculturists for the expansion, consolidation, and amelioration of land holdings, and for necessary construction purposes, to acquire equipment, and to make capital improvements in general. It should also lend on the security of crops and herds in order to expand production. Similarly, it should lend to industry to assist in acquiring capital equipment; such loans might be made on the security of real estate mortgages and of chattel mortgages on the capital equipment concerned, if a satisfactory chattel mortgage procedure is introduced. One of its principal functions should be to provide medium-term credits to rural industries and handicraft.

Any substantial agricultural or industrial projects, in order to obtain financial support from the credit institution here considered, would have to

be reviewed by competent technical advisers and should have the approval of the National Resources and Development Board as being suitable for Haiti and conforming to national plans for the use of available resources, and the total amount of such credits should be reviewed by the Board. The credit operations of the institution should also be subject to the authority of the proposed General Board of the National Bank in order to ensure co-ordination with monetary and fiscal policies in general.

The institution's lending policy must be characterized by vigour and initiative in order to assist in the economic development. Losses incurred in taking justified risks for this purpose constitute part of the general cost of economic development, and hence should be borne ultimately by the Government; this means that the institution should operate with capital supplied by the Government or with a guarantee from the Government to cover the losses incurred. It may be organized as an autonomous department of the *Banque nationale de la République d'Haïti,* as is contemplated in the project now being discussed by the management of the Bank (this alternative offers advantages of economy of personnel and of overhead costs) or it may be set up as a separate institution. In either case, the capital might be provided in any one of the following ways: subscriptions by the Government and by autonomous official bodies from funds allocated to economic development; investment by the National Bank, the Royal Bank,[1] and private persons, through the purchase of bonds; the allocation of savings deposits to this purpose if the institution were established as a department of the National Bank; making the discounts of the institution eligible for rediscount at the commercial department of the National Bank or at the Royal Bank, with a Government guarantee; subscription by the Government out of the large sums now held idle in its deposit account at the National Bank, which could be released through reform of the Government's accounting practices, as proposed in chapter VI, Problems of Public Finance. The present practice allows the Government to count as disposable funds only those amounts that would remain if all of its liabilities (except its funded debt) were paid off in cash; this means in effect that the Government is paying 5 per cent interest (the rate applying to the 1947 Internal Loan) on its bonded debt for the privilege of holding money idle in the Bank.

It should be noted that most of the methods just suggested for financing developmental expenditures will involve credit expansion in one form or

[1] For example, the Royal Bank might be permitted to invest a stipulated portion of its savings deposits in these bonds. The same might apply to the National Bank if the Agricultural and Industrial Development Bank is set up as a separate institution rather than as a department of the National Bank.

another. So long as the projects are approved by the National Resources and Development Board as sound in detail and not excessive in total, and so long as the credit policies of the Agricultural and Industrial Development Bank are effectively supervised by the General Board of the National Bank to conform with the over-all monetary and fiscal policies, the inflationary implications should not be serious.

In view of the limited domestic resources on which Haiti can draw to finance development, it is clear that the Agricultural and Industrial Development Bank will not be able to support alone numerous large projects. It will be well suited, however, to supplement and assist the private investment that is likely to be induced by development schemes financed by foreign capital. In all parts of the country, whether in association with larger specially-financed projects or not, it can make a real contribution to development by financing small local industries, co-operative purchases of agricultural machinery, seed loans, and so on.

In some countries that are dependent on export of foodstuffs and raw materials the banking system has financed the construction of storage facilities for certain crops, and has also aided in smoothing out the returns to the grower, whether with respect to seasonal fluctuations or to cyclical or other disturbances, by financing price stabilization plans. Tentative proposals of this nature have been advanced in Haiti with respect to certain secondary crops, partly to aid in the diversification of exports, and partly to sustain agricultural income in times of depression. Such plans may offer important assistance to economic stability and development, and might properly be financed through the Agricultural and Industrial Development Bank.

With respect to agricultural loans, the small scale of individual farms in Haiti involves a special problem. In order to supervise its loans properly the Bank will have either to employ numerous inspectors, appraisers, and other agents,[1] or seek practical co-operation to that end with the agents of the Department of Agriculture. The second alternative would permit cutting down substantially on the bank's needs for an inspection staff. Nevertheless, since the requested loans will probably be relatively small in amount, for the most part, the administrative costs will tend to be relatively high. Encouragement of co-operative societies would in time help to solve the problem. It is recommended in part II, chapter I, Agricultural Development and Rural Welfare, that such societies should be encouraged to render service, *inter alia*, in supervising agricultural credits. Presumably it will take

[1] Agronomists and other specialists hired for this purpose might be sent for a period of training to countries like Puerto Rico, Costa Rica, and El Salvador, where similar methods are now in operation.

a good deal of active work to foster any such system, and it will probably be a long, slow process. The Agricultural and Industrial Development Bank should be able to do a great deal to foster co-operative institutions, by a sympathetic approach and a willingness to assist farmers, rural industrial entrepreneurs, craftsmen, etc., in financing their co-operative efforts to do things for themselves for which they must now rely on intermediaries and middlemen who may exact a payment out of proportion to the services they render.

It may be that credit unions (co-operative credit societies) may eventually arise as a result of the development of co-operatives generally, and make small loans to their members. It would appear that the bulk of the rural population has little or no savings, and hence even on a co-operative basis their total resources would be small. There are individuals who hold relatively large amounts of land, however, and are considered well-to-do by their neighbours; they might have funds that could form the beginnings of local credit structures.

4. Assistance from International Organizations

In drawing on the technical assistance offered by the United Nations Haiti may be able to enlist substantial help from other international organizations. In particular there are the International Bank for Reconstruction and Development, and the International Monetary Fund. Though participating in the Bretton Woods Conference, Haiti decided not to join either organization. Apparently it was felt that the quotas assigned to Haiti were relatively large and costly, and would, in effect, have to be paid in full in gold or U.S. dollars because of the legal requirements with respect to the note issue and because of contractual obligations restricting foreign borrowing. It seems to have been believed, further, that the stability of the Haitian currency was already assured by the rigid legal connexion with the U.S. dollar, so that no question could arise on this score unless it became necessary to sever the connexion between the gourde and the dollar, and that, in such an event, the best protection would be a strong gold reserve.

It is suggested that Haiti should now seriously reconsider the decision not to seek membership in these organizations, since the situation has changed somewhat in the meantime. With the redemption in 1947 of the 1922/23 dollar loan, the country has regained its freedom of movement in matters of external financial relations; hence there would be no important obstacle in the way of issuing a non-interest-bearing note for the major portion of its quota in the Fund. This applies equally to the quota in the Bank. Not over 25 per cent of the quota need be paid in gold in the case of the Fund, and only 2 per cent in the case of the Bank. Furthermore, these quotas are not in the nature of an expenditure, properly speaking; they

constitute rather a capital investment. Some countries have so adjusted their currency laws as to allow inclusion in their legally required foreign exchange reserves of their "net gold and foreign currency position" with the two institutions. The cost of operation of both the Fund and the Bank are met out of earnings, not by assessment of members.

From Haiti's point of view the most obvious question is, what would be the advantages of membership in one or both of these organizations? With respect to the International Bank, the principal attraction would be the possible prospect of obtaining financing for development projects. The Bank grants or guarantees loans only for specific projects, and only after satisfying itself that the project is a sound one. Haiti's prospects of financial help from the Bank would therefore depend largely on working out development projects that would demonstrably add enough to the national real income to pay for themselves. Such requirements are in fact highly desirable, for this is the only kind of project that Haiti should consider, especially where foreign debt is incurred to finance it. Provided only that Haiti can devise suitable projects, therefore, membership in the Bank would give access to a possible source of help without prejudicing rights of access to other sources (such as the Inter-American Bank, if it is eventually established), and without involving onerous commitments on Haiti's part.

As for the Monetary Fund, membership in it is a prerequisite to membership in the Bank, but offers advantages of its own. It is in effect an application of the insurance principle to the problems of international financial relations, i.e., guarding against risks by a pooling of resources. As emphasized in a previous section, the past stability of the gourde in terms of U.S. dollars was not due to the legal provision of a fixed value ratio, but to the continuous gearing of Haitian economic policies to the maintenance of that exchange stability. Membership in the Fund provides in effect an addition to the gold and foreign exchange reserves which must be the first line of defence of exchange rates, in the form of drawing rights on the resources of the Fund. Membership would not involve any necessary change in the practices which have kept the exchange rate stable in the past, and would expand the resources with which the rate could be defended; at the same time these added resources would give important support to the conscious developmental and anti-cyclical policies here recommended. Finally, and perhaps most important of all from a practical point of view, membership in the Fund would give Haiti free access to a body of expert opinion and advice on monetary and related matters, whether of a national or an international bearing. The Fund has a staff of experts, including men who have spent many years studying the problems of countries such as Haiti, which no single small country could afford to

retain on its own account. In this connexion it will be noted that the Fund would be able to offer valuable aid and advice in carrying out the banking and monetary reforms suggested in this chapter.

5. Supplementary Considerations

In referring in a previous section to private money lending in Haiti, mention was made of the exorbitant interest rates charged for such credit owing in part, it would appear, to high administrative costs and high ratios of bad debts; certain other abuses were also noted in consumption loans and mortgage loans. Obviously these abuses can never be wholly eliminated, but it should be possible to reduce them materially. Action will have to include two aspects: (1) legislation, effectively enforced, to forestall corrupt practices and punish offenders; and (2) provision for alternative sources of finance for legitimate needs at reasonable rates. Some of the reforms already suggested will do a lot to provide agriculturists with credit for productive requirements. The salaried workers in the towns also need credit facilities for such legitimate requirements as paying medical bills and other large and irregular expenses, with repayment spread over several months. The Government and the banks might explore the possibility of offering such credit on carefully regulated conditions; possibly some of the major private employers of labour might be willing to co-operate, since the burden of these debts often interferes with an employee's efficiency. Rates of interest on these loans that would appear very high in more developed countries might nevertheless constitute an enormously reduced rate compared with what must now be paid for such loans in Haiti, and might be justified by the relatively high costs involved, though of course every effort should be made to keep them as low as possible.

With particular reference to mortgage loans, something could be done with the help of the banks to circumvent sharp practices on foreclosures; the banks on their part would gain considerable good will, at little cost to themselves. This could be done by stipulating that, at the option of the borrower, all mortgage payments must be made payable at a recognized banking institution, and that the bank should not be entitled to any fee for this service. The borrower could repay directly to the lender if he chose, but on the other hand he could go to a bank and pay in the money there instead, thus making it unnecessary to seek out his creditor. The banks would gain the confidence of the public, now generally ignorant and distrustful of them; the proposed agricultural bank in particular should find this valuable.[1] Continued and widespread publicity would help to that end.

[1] It appears that the borrower can now pay the money to a court if he cannot find the lender. Payment to a bank should be easier and simpler, and it is here proposed that it should be permissible without even endeavouring to locate the lender first.

At present there is no method for making payments within Haiti except by the issue of personal cheques or by the purchase of manager's cheques from one of the banks; and payments to other countries can only be made in a similar way. Relatively few people have checking accounts, and the fees charged by the banks for manager's cheques are substantially higher than those charged in other countries for money orders, at any rate where the sums involved are comparatively small. It is suggested that consideration be given to the establishment of a money order system, possibly through the banks but preferably through the postal system, since this would permit a more widespread service to the public. It is not certain that the amount of such transactions would be substantial over the year, but it is reasonable to suppose that it would provide a useful service to the public and facilitate certain types of commercial transactions.

6. Summary of Conclusions, Suggestions and Recommendations

While monetary policy should aim fundamentally at ensuring stability by helping to mitigate internal economic fluctuations and neutralize as far as possible disturbances of external origin, various ways and means for economic development promotion present themselves in the field of finance and credit organization. In the body of the text of this chapter numerous suggestions of a varied nature have been offered, of which only the more essential ones are here summarized.

1. It is suggested that consideration be given to the possibility of using monetary and fiscal policies—with prudent attention to their limitations and avoidance of incautious application of their underlying principles—for encouraging economic development having regard to the following means and capital sources:

(*a*) Foreign exchange holdings and lending by the banks;

It would appear that the two banks operating in Haiti are holding an unnecessarily high proportion of their assets in the form of foreign exchange and balances with foreign banks, that some part of these holdings may be released for use in the financing of capital development, and that in general the banks may well pursue a more active lending policy for developmental purposes than they have hitherto practised.

(*b*) Budget resources and fiscal devices;

Allocation for economic development ends so far as possible of a larger portion of current revenues than has been so allocated in the past is desirable (that present conditions impose quite narrow limits to such allocation is fully recognized by the Mission).

In boom times encouragement should be given in principle only to highly promising capital development projects, the Government contribution to which should then be defrayed from current revenues as far as possible; in slack times less urgent projects may also be undertaken to maintain domestic incomes, and may then, so far as the Government contribution is concerned, be financed chiefly by borrowings.

There are ways of making fiscal policies serve developmental purposes by influencing the direction of economic activity. By fiscal devices encouragement may be given to efforts for improving the quality of specific export products, to efforts aiming at diversification of agricultural production, to the initiation of supplementry industrial activities, and so forth.

(*c*) Individual savings;

Steps should be taken to encourage saving by the people and to channel these savings to financing development. Savings may be stimulated by establishing a postal savings system, by introducing the device of bonus interest for regular increments to savings accounts with the banks, by some adaptation of the capitalization plans used in other Latin-American countries, by developing a market for Government bonds and eventually a stock market as well.

(*d*) Foreign private investment;

Energetic efforts should be directed towards inducing capital from abroad to engage in direct investments on terms that will ensure equitable treatment of the investors without granting too generous concessions.

(*e*) Loans or credits obtained abroad;

For the financing of larger Government-sponsored development projects which require sizable capital investment exceeding the capacity of domestic financial resources, recourse may be had to borrowing abroad, especially from international financial institutions or official credit agencies of foreign Governments. In this connexion it is recommended that the Haitian Government examine the advantages of participation in the two important financial agencies of the United Nations, the International Bank for Reconstruction and Development and the International Monetary Fund, with a view to applying for membership, giving access to the divers facilities they can offer.

2. The commercial law needs revision, e.g., to provide for an enforceable chattel mortgage, the introduction of which will facilitate the granting of bank credit for acquisition of capital equipment to serve development purposes.

3. It is highly desirable that in place of the involved pattern of partly obsolete laws, contracts, agreements and treaties under which the National

Bank now operates, a unified monetary law be provided that would also incorporate the regulations regarding the issue of subsidiary coin for which the Bank might assume the full liability. Enactment of a general banking law setting out the rights, powers, duties, and responsibilities of firms or persons engaging in banking business in Haiti and instituting some form of supervision of the conduct of such business may also be considered.

4. It is recommended that in connexion with the review of the monetary system and codification of the relevant legislation consideration be given to:

(*a*) The propriety of revising the reserve requirements, bearing in mind the suggestions made above (pages 263-264), which envisage an initial fiduciary issue backed in full by eligible bills and loans as well as Government securities, the balance of the note issue being covered by exchange holdings in eligible stable currencies, and the limit of the fiduciary issue being subject to adjustment to take account of the evolution of the money circulation;

(*b*) The strengthening of the top management of the National Bank by providing it with a general board to assume responsibility in policy matters, with particular reference to the part the Bank should play in economic development promotion, and to include, in addition to the Co-Presidents and the Vice-Presidents of the Bank, the Secretary-General of the National Resources and Development Board (proposed in the introduction to this report), the Special Adviser in financial and economic matters whom the President of the Republic may decide to attach to his office at some future date, and an appropriate number of persons not in Government service having practical experience in agriculture, industry, commerce, private banking, etc., the functions of an administrative nature to be delegated to a small executive board comprising the executive directors of the Bank (see page 262).

5. It is further recommended that an Agricultural and Industrial Development Bank be set up, either as an autonomous department of the National Bank—an alternative which offers advantages of economy in personnel and overhead costs—or as a separate institution, to provide medium-term and long-term credit principally to farmers (preferably through the intermediary of agricultural co-operative organizations if and when developed), rural industries and handicrafts. Such an institution might be financed by Government and private subscription and by access to credit at the ordinary banks, and should serve as a major instrument for channelling domestic savings into developmental investments.

6. It is proposed that the statistical unit presently functioning in the Fiscal Department of the National Bank be expanded and developed into

a well equipped Research and Statistics Service to be placed immediately under the Director-General to serve all departments of the Bank. It should be charged with the responsibility of providing adequate statistics and analyses of monetary and related matters and furnishing expert technical advice to the General and Executive Boards of the Bank, as well as to the secretariat of the National Resources and Development Board and other bodies in need of such information.

CHAPTER VI

Problems of Public Finance

For many decades the primary objective of the Haitian fiscal system, apart from that of providing for the essential needs of the public administration, has been to assure the service of foreign debt of the past, rather than to help promote the economic development of the country. This orientation has been determined in the main by extraneous political factors imposing certain limitations on the Government's own choice in the matter. The foreign debt liquidation effected in 1947 implied in practice an emancipation on the part of the Haitian Government from these limitations on its fiscal policy, in which, therefore, greater emphasis than in the past may now be placed on fostering expansion of the national economy.

In the first two sections of the present chapter the institutional framework of Haitian public finances, the patterns and trends of Government revenues and expenditures, the composition and evolution of the public debt, and the position of local government finances are reviewed. Against this factual background the structure and operation of the fiscal system is subjected—in the third section—to critical examination designed to bring out its inadequacies in relation to economic development needs. This analysis leads up, on specific points, to suggestions and recommendations of modification and reform believed capable of improving the efficiency of the system within its existing general frame.

A. INSTITUTIONAL FRAMEWORK OF HAITIAN PUBLIC FINANCES

To facilitate a proper understanding of Haiti's fiscal problems it is necessary first to indicate their institutional background, which hitherto has not been distinctly presented in any published studies of the public finances of the country. Lack of attention to the institutional setting in which these problems actually present themselves would obviously impair the practical value of such suggestions or recommendations as may be made with reference to fiscal policy.

1. CONSTITUTIONAL PROVISIONS

The Constitution of 1946, in its chapter on "Finance", defines the frame within which all Government spending and financing takes place from the stage of planning to the stages of execution and control. The Ministry of

Finance, charged with the responsibility for all Government accounts, submits to the Legislature the draft budget, together with an annual balance sheet of the State and statements on the operations of the National Bank of Haiti and of the Lottery of Haiti. In order to become law the budget must be approved by the Legislature, and no appropriation can be approved without specification of the sources of the funds required to cover it. All expenditures must be authorized by law. The legality of expenses and of any financial contract designed to be binding on the State must be examined by the *Chambre des Comptes* (referred to below). Regulations for the detailed examination and settlement of Government accounts and relevant Treasury vouchers are laid down in the Law on the Budget and Public Accounts, which is published as an introduction to the budget for each fiscal year.

Three general rules apply with reference to taxation:

(*a*) Taxes can be levied only under a law. Similarly, increases and decreases in and exemptions from taxes can only be made effective by means of a law;

(*b*) Laws of the nature referred to under (*a*) are valid for only one year at a time, and hence require renewed approval for extension;

(*c*) As regards direct taxation, the rates are progressive, rising with the size of the income or fortune assessed.

2. Fiscal Administration

The executive functions in fiscal matters are divided between the National Bank (*Banque nationale de la République d'Haïti*) and the Ministry of Finance. Thus the tax administration is split up between the Fiscal Department of the National Bank, which collects customs dues, inspects the collection of internal revenues, exercises supervisory and auditing functions in respect of all central and local government accounts, and makes revenue budget estimates, and the Internal Revenue Service (*Direction des Contributions*) of the Ministry of Finance, which administers all taxes and dues other than customs receipts.

While constitutionally an organ of the National Bank, the Fiscal Department functions *de facto* as an autonomous service in the Ministry of Finance which carries in its budget the salaries of the staff and other operational expenditures of that agency.

The formal dualism in the fiscal administration dates from the period of United States occupation of Haiti and has been institutionally related in particular to the 1922/23 dollar loan (dealt with in some detail in a subsequent section), the service of which was guaranteed by the customs

revenues.[1] It has been maintained subsequent to the redemption of that loan in 1947, inasmuch as the law authorizing the Internal Loan of that year confirms the attribution to the National Bank of the fiscal functions the continuance of which constitutes an obligation undertaken by the Government towards the bondholders. Thus, as mentioned in the preceding chapter with particular reference to the National Bank (page 229), the Government has undertaken for the duration of the Internal Loan, i.e. up to 1957, not to modify the organization and attributes of the Fiscal Department (or of the Commercial [Banking] Department) of the National Bank.

The Fiscal Department of the National Bank is headed by one of the four vice-presidents of the Bank and has some 300 employees in Port-au-Prince, not counting customs employees. It comprises three principal services, namely, the Office of the Comptroller, which supervises the budgeting and operation of the Government expenditure and revenue accounts; the Office of General Inspection charged with the auditing of all central and local government accounts; and the Customs Service, which administers the customs revenues, attends to the proper application of customs rulings and tariffs in the various customs houses (fifteen in number, each headed by a Director of Customs, directly subordinated to the head of the Fiscal Department), deals with claims, refunds, etc., computes the statistics of external trade, is responsible for the application of commercial treaties and tariff agreements, and assists in the preparation of customs laws and regulations.

The Internal Revenue Service of the Ministry of Finance collects all non-customs receipts from (at present) some thirty-eight sources of revenue,

[1] The customs receipts were in fact placed under United States control from the outset of the occupation beginning in 1915 and were administered by officers chosen jointly by the Haitian and the United States Governments. The officers, a Financial Adviser and a Receiver General, had broad powers over the Haitian budget, the Haitian Government having obligated itself not to increase the public debt or to modify customs duties without the consent of the United States.

With the termination of the military occupation in 1934, the two officers were replaced by a Fiscal Representative nominated by the United States Government, who in carrying on the supervisory services in a modified form submitted yearly reports to the two Governments. The office of the Fiscal Representative was financed by allocation to it of 5 per cent of total customs receipts.

Under a new Executive Agreement concluded in 1941 the functions exercised by the Office of the Fiscal Representative (which post was then abolished) were taken over by the National Bank of Haiti, and more especially by its Fiscal Department as the agency collecting customs revenues. The Executive Agreement of 1941 was terminated with the redemption of the balance of the 1922/23 dollar loan in 1947, in conjunction with the issue of the Internal Loan, 1957. The law authorizing this loan maintained the previous cover provision in the sense that the service of the new loan is likewise guaranteed by the customs receipts collected by the Fiscal Department of the National Bank. Hence the institutional frame remains unchanged on this point. In 1947, however, a national of Haiti was appointed head of the Fiscal Department in the place of a non-Haitian.

including taxes, fees, receipts from rental of the public domain and public utilities, etc. Every new source of revenue as and when provided falls immediately under the jurisdiction of the Internal Revenue Service, which is therefore gradually expanding.

The revenue collection is effected through 145 offices, including the central office at Port-au-Prince, eleven other district offices—there are twelve financial districts in all for collection purposes—and 133 local branches distributed all over the country. The central office has 217 employees under a Director General and a Deputy Director. To this figure should be added another 266 employees in charge of the various branches.

Outside the Internal Revenue Service the Ministry of Finance has a staff of fifty-seven employees of whom fourteen make up the central office, nine constitute the general accountancy service, and the remaining thirty-four are divided among five other services and the national archives. This set-up is obviously inadequate to cope with all the financial matters of the Government with the handling of which the Ministry of Finance is charged in principle under the Constitution, which makes its chief responsible for all Government accounts. Thus there is a conspicuous incongruity between the theoretical responsibility vested with the Ministry of Finance and the means with which it has actually been provided for the discharge of that responsibility.

3. Budget Procedure

The annual budget law is divided into three parts. The first, described as the Law on the Budget and Government Accounts, deals with fiscal procedure and organization. The second deals with Estimates of Revenue, and the third with Estimates of Expenditure of the different ministries. In the period from 1936/37 up to 1948/49, the provisions of the first part have remained practically unchanged (except that account has naturally been taken of the withdrawal of the Fiscal Representative in 1941).[1]

The functions of planning, directing and supervising the budget are in the hands of the Secretary of State for Finance.

The budget of receipts estimates the probable yield of the taxes to be levied during the fiscal year. Under the budget law the Finance Secretary is to estimate, prepare, set in tables and submit to the Council of Secretaries of State, on 1 December each year, the Ways and Means Budget of the following financial year, classified in chapters and articles. In actual practice, part of this function has been exercised in the past by the Fiscal Department of the National Bank. The Bank was relieved at least theoretically of

[1] See page 277, footnote 1.

this function by the Constitution of 1946 and again in 1947 by the provisions contained in the law concerning the Internal Loan.

The Fiscal Department assists, by providing data drawn from its statistics, in the establishment of the preliminary estimates of revenues for the coming financial year. These evaluations are made empirically. On the basis of the receipts of the five preceding years and anticipations of the size and prices of the principal export crops the prospective "purchasing power" is appraised in order to arrive at the probable yield of export and import duties. An equally rough approximation of total receipts of other kinds, including income taxes, excises, etc., is also made.

As a preliminary to establishing the budget of expenditure, every member of the Council of Secretaries of State presents the budget demands of his own ministry. The Ministry of Finance then reviews the proposed expenditures of the ministries and combines them in a draft general budget, submitting it to the Council of Secretaries on the first Monday of January. He presents it as reviewed and amended by this body to the opening session of Parliament for legislative approval.

In drawing up the individual draft expenditure budgets for their respective ministries, the Secretaries of State, anticipating cuts in their estimates when fitted together into a unified minimum budget, tend to include in such demands a substantial margin to allow for expansion of their requirements. The budgets for the various services are essentially salary budgets, with some appropriations for office supplies and other items that are more or less fixed. The result of the discussion and bargaining in the Council of Secretaries of State will be either reductions in the appropriations requested or suggestions of measures to amplify the Ways and Means budget.

The main weakness of the present method of preparation of the budget is reflected in the successive growth in recent years of the supplementary and extraordinary appropriations from 2.7 million gourdes (or 6.7 per cent of total expenditures) in 1945/46 to 7.9 million (13 per cent) in 1946/47 and 33.1 million gourdes, or 40 per cent of the final total of expenditures, in 1947/48.

Extraordinary appropriations are, in principle, only made within the limit of the receipts as they actually turn out. The reason for the growth in relative importance of such appropriations, therefore, is mainly to be sought in inaccurate forecasting of receipts, but to some extent, also, to shortcomings of the procedure followed in preparing the draft budget of expenditures. The requirement that budget estimates be available nine months before the beginning of the fiscal year to which they apply obviously renders accurate forecasting difficult in a country whose revenue budget is so largely

dependent on customs receipts and hence on the vagaries of external trade as is that of Haiti.

The ordinary budgetary credits are appropriations to cover the expenditures foreseen in the general budget as drawn up on the basis of the provisional estimates of State receipts. A supplementary credit is an appropriation authorized by special law during the fiscal year to make good a proved insufficiency of an ordinary-credit account to accomplish, without modification of its nature, a service already authorized in the general budget. It becomes part of the budgetary credits and is added to the disposable balance of such credits. An extraordinary credit is an appropriation authorized by special law (or decree) to meet urgent circumstances unforeseen or not adequately provided for in the general budget. If the Chambers are not in session, the President of the Republic has the power to open extraordinary credits by decree, countersigned by all the Secretaries of State and published in the *Moniteur*. Any Decree of Extraordinary Credits must, however, be submitted for approval to the Legislative Chambers within the first fortnight after they have been convened.

Both the supplementary and the extraordinary appropriations must define the receipts designed to cover them. Authorization to incur expenditure is allocated by the Ministry of Finance according to the amount of funds at the disposal of the Public Treasury and at a monthly rate of one-twelfth of the total yearly appropriation. Special consideration is given to the necessity of lump sum payments in certain circumstances.

Unexpended balances of budgetary or supplementary credits will be annulled in all the accounts on 30 September of each financial year, while unexpended balances of extraordinary credits remain disposable for two years from the date of their authorization, unless the purpose for which they were authorized has been entirely accomplished.

All fiscal receipts are deposited to the account of the Haitian Government at the National Bank, and from these revenue deposits all Government expenditures are met. Vouchers covering all disbursements of Government funds are received, audited, and recorded by the Fiscal Department of the National Bank.

Tax refund clearances may be authorized by the respective tax administrations and issued by the competent service after authorization; claims presented within thirty days after payment of tax are to be reported to the Finance Secretary.

Outside the fiscal machinery of the National Bank and the Finance Ministry, examination of all public financial operations, accounts and contracts, from the point of view more especially of their legality, is exercised

by the *Chambre des Comptes,* an autonomous institution[1] established in June 1947, which (*a*) controls receipts and expenditures, (*b*) issues statements at the end of the fiscal year on the operations of the various administrative services, local governments, the National Bank, the SHADA,[2] the Social Insurance Fund, the Lottery of Haiti, etc., (*c*) studies all contracts submitted by the Executive having to do with the State or under its control, and (*d*) prepares an annual report of its activities.

Having checked the Government accounts, the *Chambre des Comptes* submits them with all relevant observations to the Legislature within forty-five days after the opening of the ordinary session. The Legislature, after verifying the regularity of the accounts, discharges by an act of law (or refuses to discharge) the individual Secretaries of State in respect of the administration of the services for which they are responsible.

The authorization phase of the budgeting comprising the examination, discussion, amendment and voting of the draft budget by the Legislature is well taken care of in Haiti, and the executive or administrative phase of putting into operation the budget plan as authorized has not, up to the present, given rise to many difficulties. But, as pointed out above, the Haitian expenditure budget is essentially a salary budget the technical handling of which is not a very complicated matter. If it is to become more of a fiscal policy instrument serving economic development purposes, greater complexity is bound to arise in its administration. To cope with that situation remedy must be sought for the conspicuous weakness in Haitian administration involved by the high rate of turnover of Government officials which causes lack of stability in public functions. Virtual absence of delegation of authority by superiors to subordinates is a further weakness to be remedied. So also is such dualism as exists in the control of budgetary operations and accounts by the *Chambre des Comptes* and the Comptroller's office in the Fiscal Department of the National Bank. Avoidable overlapping presently occurs on various points while sufficient attention is not always paid to certain essential aspects of the control (cf. page 308).

4. Publication of Public Finance Data

At present there are no definite provisions requiring any office within the fiscal administration to publish the Government accounts. In practice certain public finance statistics are compiled, however, by the Fiscal Department of the National Bank, which publishes monthly as well as yearly

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[1] While its members, seven in number, are elected (for a term of four years) by the Chamber of Deputies from a list of three candidates for each post drawn up by the Senate, its operating expenses are included in the budget of the Ministry of Finance.

[2] *Société haïtiano-américaine de développement agricole.*

reports, and by the Internal Revenue Service, which issues a mimeographed annual report giving information on taxes and contributions under its jurisdiction and on receipts from local governments.

B. EVOLUTION OF THE PUBLIC FINANCES

1. Budget Trends

A retrospective summary of the evolution of the budget during the last twelve years is given in table 11, showing the movement of total expenditures and total receipts. For graphical illustration these totals are plotted in chart XII, which shows in addition the movement of local government expenditures and receipts in the fiscal years 1941/42 to 1946/47.

Balancing of the budget for each financial year was a principal objective of the financial control established during the period of the occupation. It will be observed that during the subsequent period here reviewed this objective has been closely realized on an average. At the same time the total of the general budget has varied greatly, shrinking from about 35 million gourdes in 1936/37 to approximately 26 to 27 million gourdes during the early years of the war,[1] subsequently rising to over 83 million gourdes by 1947/48. The trebling of the expenditure budget since the 1941/42 fiscal year is accounted for only in part by the simultaneous rise in internal prices which, judging by the rough cost of living index given in chapter V, Credit Organization (page 247), would appear to have been less than 75 per cent. As Haitian Government revenues are very highly dependent on customs receipts, these large swings in the budget have in the main reflected changes in the volume of Haitian external trade, as clearly demonstrated in chart XIII. Since the volume of imports depends intimately on that of exports, which in turn depends on the conditions of sale of Haitian produce in external markets, it follows that by far the largest single source of budget income in the past has been outside the direct control of the Government.

In these circumstances and in view of the agreement with the United States to the effect that (*a*) total expenditures should not be allowed to exceed total receipts, (*b*) the service of the 1922/23 dollar loan constituted a first lien on the receipts, and (*c*) until that loan had been wholly redeemed the public debt of Haiti should not be increased except in agreement with the Government of the United States, the Haitian

[1] The somewhat different movement between 1936/37 and 1941/42 depicted by chart XII is explained by the fact that in the chart the figures for the special Public Works Contract budget, financed by the foreign loan of 1938 have been added to those of the general budget.

TABLE 11

Summary of Budget Accounts

(in millions of gourdes)

	A. General Budget			B. Public Works Contract, 1948	
	Expenditure	*Receipts*	*Balance*	*Expenditure*	*Receipts*
Closed accounts:					
1936/37	35.0	34.4	−0.6	—	—
1937/38	28.9	28.1	−0.8	0.3	0.3
1938/39	29.6	31.1	+1.5	8.3	8.3
1939/40	28.5	26.9	−1.6	8.8	8.8
1940/41	25.6	26.9	+1.3	7.3	7.3
1941/42	27.7	25.6	−2.1	2.5	2.5
1942/43	28.0	32.7	+4.7	0.3	0.3
1943/44	42.0	42.4	+0.4	—	—
1944/45	42.5	41.9	−0.6	—	—
1945/46	40.4	44.5	+4.1	—	—
1946/47	60.4	65.3	+4.9	—	—
1947/48	83.7	78.8	−4.9	—	—
Preliminary estimates:					
1947/48	51.7	51.7	—	—	—
1948/49	67.4	67.0	−0.4	—	—

Sources:

Annual Report of the Fiscal Representative, *Banque nationale d'Haïti*, 1936/37-1939/40.

Annual Reports of the Fiscal Department, *Banque nationale d'Haïti*, 1940/41-1946/47.

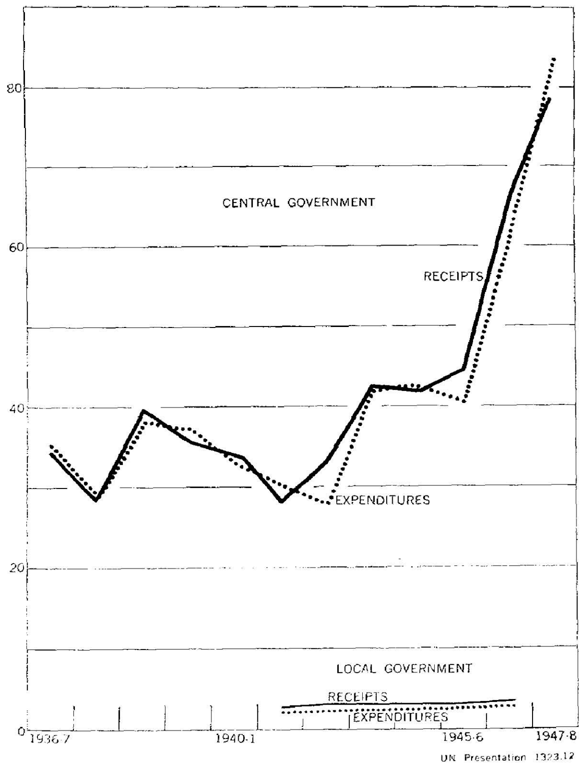
Bulletin Mensuel du Departement Fiscal, Months of 1947 and 1948.

Le Moniteur, 30 September 1947—*Numero extraordinaire*—Port-au-Prince.

Le Moniteur, 27 September 1948—*Numero extraordinaire*—Port-au-Prince.

Government could do little else in times of declining trade, and hence declining public revenues, but reduce the expenditure budget (principally by reducing salaries) in so far as the decline in customs receipts could not be offset by increasing the rates of other existing taxes or by tapping new internal sources of revenue. The possibilities for raising any substantial amounts of new revenues by means of the two last-mentioned devices were obviously quite limited in times of declining trade and shrinking economic activity. The effects of the fall in exports in the latter part of the 1930's were offset in certain degree by the loan obtained from the Export-Import Bank of the United States in 1938 for the execution of public works (construction of roads, irrigation works, etc.). The loan granted four to five years later to SHADA (with Haitian Government guarantee) for agricultural development purposes, and the spend-

Chart XII.—Central and local Government receipts and expenditures, 1936/37 to 1947/48



ing of which coincided with the revival in Haiti's foreign trade during the latter part of the war, may well have helped in some degree to enhance the effects of that revival on the revenues of the Government. The rates of taxation of business profits were raised in 1942 and again in 1948, an excess profits tax was introduced in 1947, sugar was subjected to export tax in 1942, and export duties on coffee, bananas, etc., were increased in 1945, 1946 and 1948. More than these and other increases of rates and additions of new forms of taxation, however, the sharp increase in the value of exports has by engendering concomitant expansion of imports—the main source of customs revenue—contributed to the rapid growth of Government income in recent years.

2. Revenue Pattern

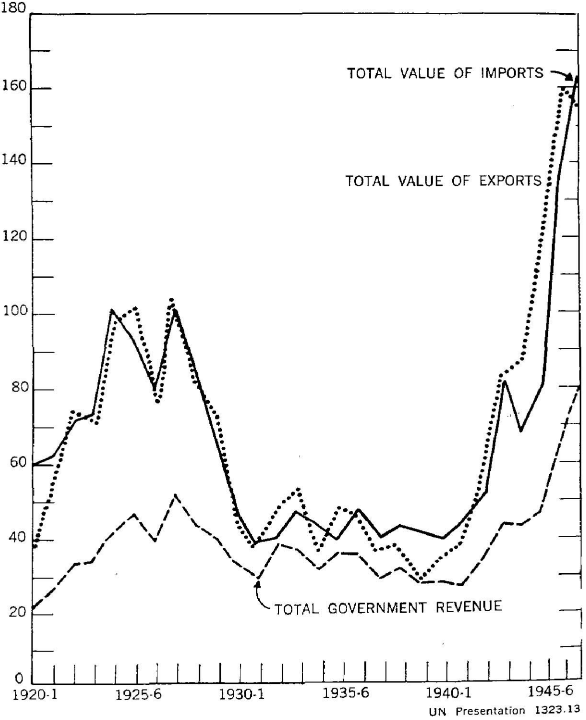
There are two broad categories of budget receipts, namely: taxation receipts, derived from customs dues, taxes on income, and business profits, stamp taxes, excises, etc., and non-tax receipts, consisting of administrative receipts, rentals from public land, receipts from public enterprises, sundry fees, fines, etc., and receipts from Communes. By far the largest proportion of the budget receipts originates in taxation, as will be seen from chart XIV. In the 1947/48 financial year over 90 per cent of the receipts derived from tax revenue and nearly 74 per cent from customs dues alone.

In the six financial years 1937/38-1942/43 the general-budget receipts were supplemented by receipts from the Public Works Contract of 1938 the Export-Import Bank loan referred to above—under which 27.5 million gourdes in all were received (data plotted separately in chart XIV). The disbursements from this sum were all made for specific purposes, as already explained, no part of it being disposed of for general-budget expenditure.

The composition of the budget receipts in each financial year since 1936/37 is shown in some detail in annex table 18 (page 322). A condensed summary of the closed accounts for the last financial year before the war, for the first financial year after the war, and for 1947/48 is given, together with the preliminary estimates for the last-mentioned year and 1948/49 in table 12, Sources of Revenue.

It will be noted that with the increase in direct taxes, stamp tax, excises, etc., after the war, the predominance of customs receipts as a source of revenue has somewhat declined. A further decline in their relative importance is apparently anticipated for the 1948/49 financial year, to judge by the preliminary estimate. Whether any substantial decline in their absolute amount is also definitely anticipated is more difficult to judge, since the preliminary estimates are as a rule quite conservative on this point, as will

Chart XIII.—Value of exports and imports and total Government revenue, 1920/21 to 1947/48



be seen from a comparison of the preliminary estimate for 1947/48 with the amount of customs revenue actually collected in that year according to the closed accounts.

TABLE 12

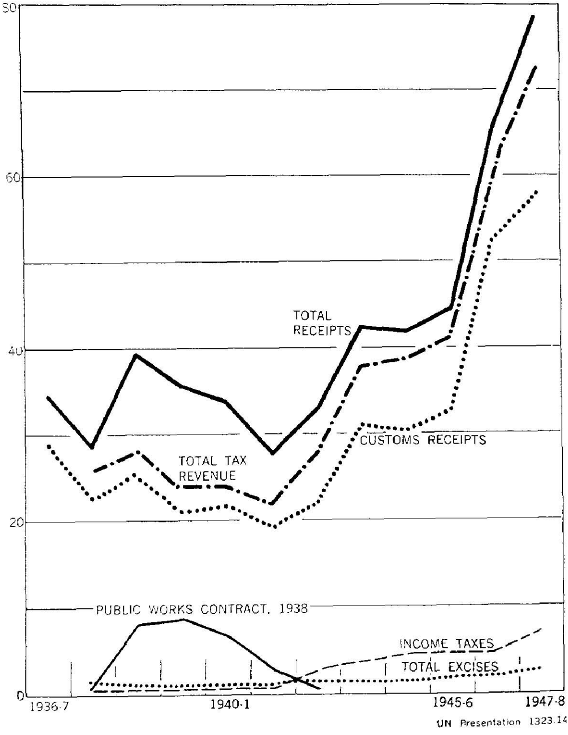
Sources of Revenue

(in millions of gourdes)

	Closed accounts			*Preliminary estimates*	
Budget receipts	*1938/39*	*1945/46*	*1947/48*	*1947/48*	*1948/49*
A. *General Budget*					
1. Import duties	20.8	25.1	42.6	26.1	31.2
2. Export duties	4.8	7.4	14.8	12.4	14.5
3. Miscellaneous	0.1	0.3	0.8	0.6	0.7
TOTAL CUSTOMS DUTIES	25.7 (82.6%)	32.8 (73.3%)	58.2 (73.8%)	39.1	46.4
4. Income tax on business profits	0.4	4.4	7.3		
5. Excess profits tax	—	—	2.2		
6. Stamp tax	0.5	0.9	1.3		
7. Excises	1.2	2.0	2.7		
8. Other taxes	0.5	0.6	0.7		
TOTAL OF ITEMS 4-8	2.6 (8.4%)	7.9 (18.2%)	14.2 (16.8%)	12.6	20.6
TOTAL TAXATION RECEIPTS	28.3 (91.0%)	40.7 (91.5%)	72.4 (90.6%)		
9. Non-taxation receipts	2.8 (9%)	3.8 (8.5%)	6.4 (9.4%)		
TOTAL BUDGET RECEIPTS	31.1 (100.0%)	44.5 (100.0%)	78.8 (100.0%)	51.7	67.0
B. *Public Works Contracts*	8.3	—	—	—	—

In the 1920's roughly one-third of the customs revenues was derived from export dues. By the middle of the 1930's their share rose to nearly 40 per cent, but shrank subsequently after the rates of the coffee export duties had been lowered in the fall of 1937—to a minimum of 13 per cent in 1939/40 (cf. chart XIV). With the expansion of other exports subject to duty and consequent upon the imposition of higher rates the share of

Chart XIV.—Receipts, 1936/37 to 1947/48



export duties increased again to an average of 25 per cent of customs revenues collected in the three fiscal years 1945/46-1947/48.

The sources of the customs revenues collected in the fiscal years 1938/39, 1945/46 and 1947/48 are shown in table 13. Cotton goods, flour and mineral oils are the three largest single sources of import duties. Comparing 1947/48 with 1938/39 it will be observed that the relative distribution of the receipts from imports has not changed greatly as between the different

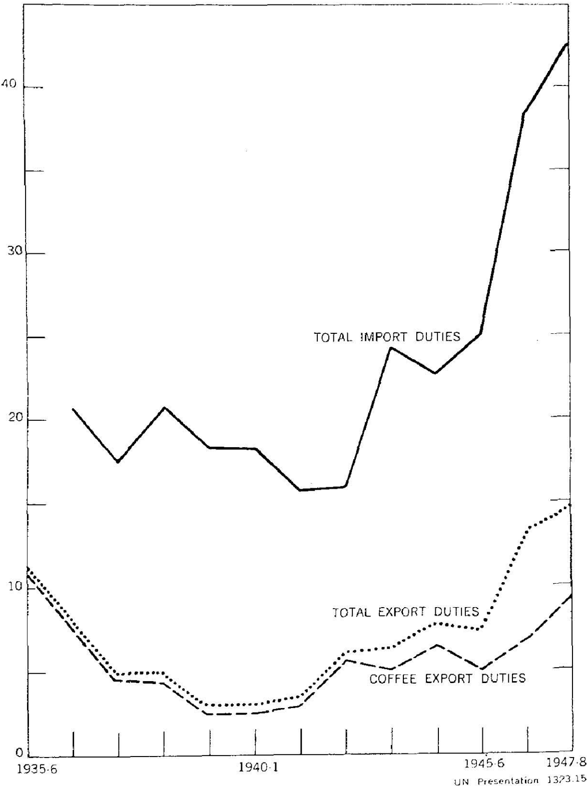
TABLE 13

Sources of Customs Revenue

(in millions of gourdes)

	1938/39	*1945/46*	*1947/48*
Import duties on:			
(*a*) Flour	2.5	6.0	6.7
(*b*) Other foodstuffs (excl. beverages)	2.0	1.1	2.9
(*c*) Cigarettes and tobacco	0.9	2.4	3.1
TOTAL (*a*) + (*b*) + (*c*)	5.4	9.5	12.7
(*d*) Cotton goods	6.4	4.3	9.0
(*e*) Other textile goods (incl. jute bags)	0.8	1.2	3.2
TOTAL (*d*) + (*e*)	7.2	5.5	12.2
(*f*) Rubber, leather and paper goods	0.7	1.4	1.6
(*g*) Chemical and pharmaceutical products	0.9	1.6	2.1
(*h*) Soap	1.0	0.7	1.2
TOTAL (*g*) + (*h*)	1.9	2.3	3.3
(*i*) Gasoline and kerosene	3.2	2.9	4.4
(*j*) Iron and steel products, machinery, etc.	1.1	1.5	2.8
(*k*) Autos and trucks	0.2	0.3	0.8
TOTAL (*j*) + (*k*)	1.3	1.8	3.6
(*l*) Cement, lumber, glass, and earthenware	0.8	0.9	1.0
(*m*) Other goods	0.3	0.8	3.7
TOTAL IMPORT DUTIES	20.8	25.1	42.5
Export duties on:			
(*a*) Coffee	4.3	5.1	9.5
(*b*) Sugar	—	1.1	2.0
(*c*) Bananas	0.2	0.4	2.3
(*d*) Sisal	0.1	0.2	0.4
(*e*) Cotton	0.1	0.1	0.1
(*f*) Other goods	0.1	0.5	0.5
TOTAL EXPORT DUTIES	4.8	7.4	14.8

Chart XV.—Components of Customs duties, 1935/36 to 1947/48



groups of imported goods, with one notable exception, namely, the group of sundry unspecified products, the customs yield of which has gained appreciably in importance. In the case of export duties, on the other hand, a distinct change in relative distribution has occurred since before the war. Coffee export duties which in 1935/36 yielded eleven million gourdes constituting 96 per cent of the total (see chart XV) have become much less preponderant in recent years—64 per cent in 1947/48—with the increase in customs yield of sugar and banana exports, a result in part of the raising of the rates of export taxes to which reference has been made above.

Coffee exports are subject to a "normal tax", a war tax, and a surtax. A sliding scale is applied to the normal tax, which rises inversely to the grade of the coffee: e.g., the lower the grade the higher the tax. Under this arrangement designed to discourage production of low-grade coffee in favour of high quality production for export, grade 1 coffee, which is the best, is subject to an export tax of 2.7 U.S. cents per pound, while for the poor grades 4-8, the tax rises to 3.8 cents per pound. The war tax fixed at 1 dollar per sack of 80 kg. was originally instituted as an emergency tax, but has been maintained since the war. The surtax, first levied in 1946, is progressive in the sense that it rises with the price of the coffee. A flat rate of 0.25 per cent is applied to the first $10.00 per sack of 80 kg.; between $10.00 and $15.00 per sack the rate rises to a flat 5 per cent, between $15.00 and $30.00 to 10 per cent, and above $30.00 per sack a tax rate of 15 per cent applies.

Bananas are subject to three types of export tax: (1) a tax varying directly with the size of the stem (instituted in May 1945), (2) a tax varying with the selling price (introduced in December 1946) and (3) a flat tax rate per stem (levied since September 1947). The export tax on sugar is progressive according to the price of the product. Cotton, sisal, essential oils and goat skins are subject to flat rate export taxes.

In 1948 a general income tax law was passed. It covers in principle all types of personal and corporate gains, profits, and incomes earned in Haiti. The tax is progressive, rising from 5 per cent of taxable income of 3,000 gourdes or less to 30 per cent of taxable income in excess of 200,000 gourdes. In determining taxable income personal deductions of 3,000 gourdes for individual taxpayers, 5,000 gourdes for couples, and 1,000 gourdes for each dependant up to a total number of five dependants are allowed. Tax payments, insurance premiums, charitable contributions, bonuses and gratuities to employees, and income from Haitian Government securities are also deductible. Of the net income 10 per cent may be deducted as a reserve against losses. In addition, 75 per cent of business

net incomes not exceeding 100,000 gourdes may be deducted for reinvestment in the business in certain circumstances. Finally, dividends may be excluded from the individual income of stockholders.

The progressive rate of 5 per cent to 30 per cent of taxable income applies to individuals and to business enterprises keeping profit and loss accounts. In the absence of such accounts business income is determined on the basis of rental value. Hence, in this particular case, according to an implementation decree issued one month after the enactment of the new law, the provisions of the business profit tax laws of 1942 remain in force. Withholding of income tax on salaries of Government employees was begun under the new law in October 1948.

In its search for new sources of revenue the Government introduced in the fiscal year 1947/48 an excess profit tax on specific commodities, chiefly leading export products, including coffee, sisal, bananas, and certain cereals. The tax is payable by the exporter and is therefore in effect simply another export duty superimposed on those already existing. It is so listed with reference to bananas in a recent amendment to the tariff enumeration of export duties.[1]

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[1] The excess profit tax on bananas is payable at the following rates per standard stem:

When the average price per 100 kg. is:	*Excess tax*
$2.60 to $3.00	0.25 gourdes
$3.00 to $4.00	0.50 gourdes
Above $4.00	0.25 gourdes for each dollar or fraction thereof.

For sub-standard stems reductions in the excess profit tax in proportion to the number of "hands" contained in the stem is allowed.

For coffee a 5 per cent margin of profits free of excess tax is allowed to the exporter. Profits in excess of that margin are taxed in proportion to the price of the product at the following rates:

Per sack of 80 kg.	*State's share*	*Exporter's share*
30% of 1st dollar of excess profit	$ 0.30	$ 0.70
35% of 2nd dollar of excess profit	0.65	1.35
40% of 3rd dollar of excess profit	1.05	1.95
45% of 4th dollar of excess profit	1.50	2.50
50% of 5th dollar of excess profit	2.00	3.00
55% of 6th dollar of excess profit	2.55	3.45
60% of 7th dollar and more of excess profit	3.15	3.85

The excess profits tax on sisal provides that any difference between the price at which the exporter buys the sisal from Haitian producers and the price at which he sells the product abroad is to be shared by the State and the exporter in the following manner:

Per ½ kg. of sisal:	*State's share* (Per cent)	*Exporter's share* (Per cent)
Profit up to 2 U.S. cents	—	100
Profit from 2 to 3 cents	20	80
Profit from 3 to 4 cents	30	70
Profit from 4 to 5 cents	40	60
Profit of 5 cents and up	50	50

The composition and yield of excise taxes are shown in detail in annex table 18. The greater part of the excise revenues is derived from cigarettes and tobacco. The tax on alcohol was based before 1931 on the volume of production. Subsequently it has been and is at present fixed in relation to distilling apparatus in the possession of producers. While on the previous basis the tax reflected the consumption of alcohol, and hence permitted the State revenues from this source to expand as consumption increased, this feature has been completely lost in the present tax law on alcoholic beverages.

While there are numerous lesser sources of tax revenue, the above taxes are those of major importance to the public finances of Haiti and consequently those deserving particular attention in an evaluation of the country's fiscal system.

Government monopolies have been instituted in respect of four products, namely, tobacco, sugar, bananas, and cement. The tobacco monopoly was established for the purpose of stabilizing the market for domestic tobacco so as to ensure that the producers would obtain fair prices. The sugar monopoly is exercised only with regard to the distribution and selling at wholesale of sugar on the domestic market, the selling price being fixed by the Government. Under the banana monopoly the Government grants concessions for purchase of bananas in given areas and fixes the price at which the concessionaire may buy this fruit from the peasants. Certain obligations to provide school and hospital facilities, roads, etc., attach to the banana concessions. Under the cement monopoly industrial production of this important construction material is subject to Government concession. As a means of encouraging the development of this industry, tax exemption for an initial period up to five years is foreseen. Apart from the four specific monopolies here referred to, the exploitation of any subsoil resources is subject to Government concession.

The granting of tax exemption is an old established feature of Haitian economic policy. In order to attract foreign investors, contracts have been concluded between the Haitian Government and foreign enterprisers exempting them from certain taxes or, in some cases, from all taxes for a number of years. This policy has attracted foreign direct investment, not so much perhaps on account of the tax relief granted, since in general the taxes have not been very high, but by virtue of the sense of security and relative permanency that a contract between the State and the foreign enterprise gives to the latter. Such contracts concluded in the past have provided for total or partial tax exemption or exemption from any increase in existing tax rates during periods of from five to sixty years. In granting taxation favours due consideration should be given to their compatibility,

not only with the short-term but also with the longer term aspects of economic development, as well as to the curtailment of Government revenue that they involve.

Comparison with the budgetary revenue patterns in other Latin-American countries broadly resembling Haiti in economic structure may be of some help for the appraisal of the Haitian fiscal system. In such Latin-American countries as El Salvador, Guatemala, Costa Rica, Ecuador, Venezuela, and the Dominican Republic, the revenue system has so far been based mainly on indirect taxes and, among them, in the first instance, on import dues, though in lesser degree than in Haiti during the last few decades. Moreover, since before the war customs duties have been supplemented by other taxes and dues to a greater extent in these countries than in Haiti. Thus between 1938 and 1945 the share of import duties in total budget receipts dropped from 55 per cent to 34 per cent in El Salvador, from 47 per cent to 37 per cent in Costa Rica, and from 35 per cent to 17 per cent in Venezuela, compared with a drop in the very considerably higher corresponding figures in Haiti from 67 per cent in 1938/39 to 56 per cent in 1945/46. This trend continued in subsequent years, but would appear to have been slower in Haiti (where import duties still accounted for 54 per cent of total receipts in 1947/48) than elsewhere.

In a few of the Latin-American countries in whose exports minerals, metals, and petroleum preponderate, export taxes on such products are a major source of Government revenue. In those countries that chiefly export agricultural produce, export duties do not as a rule constitute a major part of the revenue budget. Haiti is the most conspicuous exception in this respect. The share of export duties in total budget receipts in Haiti has indeed been growing during the last decade—from 15½ per cent in 1938/39 to 16½ in 1945/46 and, including the excess profit tax on principal exports, to 21½ per cent in 1947/48.

Land taxes levied by the central Government are to be found in Argentina, Chile, Costa Rica and Guatemala, and in none of these countries do they account for more than 3 to 4 per cent of total budget receipts.

Throughout Latin-America an unmistakable shift from indirect to direct taxes has been taking place in the last ten years. This trend has been most in evidence in those countries where marked progress has been made in economic development. This is also the trend in Haiti, though there the shift has only just begun and is as yet less apparent than in most other countries of the Western Hemisphere.

3. Expenditure Pattern

The broad summary given in table 14 of budget expenditures according to the purpose or nature of activities of the Government services to which they are allocated illustrates certain distinct changes in the emphasis of Government spending that have taken place over the last ten years. Like the corresponding revenue summary (page 289) this table presents a condensation of the closed accounts for the last financial year before the war, for the first financial year after the war, and for 1947/48, together with the preliminary estimates for the last-mentioned year and 1948/49, the details of the various accounts being given for each year since 1936/37 in annex table 19.

Comparing 1947/48 with 1938/39 it will be noted that the share of the expenditure allocated primarily to economic purposes has increased markedly, as has also that of the public debt service, while expenditure for the army (essentially a military police force including an aviation branch which renders excellent civilian air communication service between Port-au-Prince and important provincial centres in the various parts of the coun-

Table 14

Allocation of Expenditures

(in millions of gourdes and in per cent)

Budget expenditure	*Closed accounts*						*Preliminary estimates*	
	1938/39	%	*1945/46*	%	*1947/48*	%	*1947/48*	*1948/49*
A. *General Budget*								
1. National defence	7.8	26.4	9.7	24.0	13.7	16.4	—	—
2. General Government administration	7.5	25.3	10.1	24.7	21.1	25.2	22.9	28.8
3. Expenditures for economic purposes	5.9	19.9	6.9	16.9	21.7	25.9	6.3	10.0
4. Expenditures for social purposes	5.8	19.6	8.0	19.6	16.5	19.7	10.8	18.1
5. Public Debt Service	2.6	8.8	6.2	15.0	10.7	12.8	11.7	10.5
Total general budget expenditure	29.6	100.0	40.9	100.0	83.7	100.0	51.7	67.4
B. *Public Works Contract*, 1938	8.3	—	—	—	—	—	—	—

try), though very substantially higher in absolute figures[1] than before the war, has declined considerably in relative importance. Expenditures for "social purposes"—chiefly education and public health—accounted for the same share in the nearly trebled total budget of 1947/48 as in that of 1938/39; the preliminary estimates for 1948/49 take into account a contemplated expansion of the social budget in that year. The general tendency of the shifts in emphasis of the spending policy as reflected in the (closed) budget accounts has been in a direction pointing to increased consciousness of economic development needs. The limitations imposed by the paucity of resources in relation to needs have been so narrow, however, as not to permit of any considerable spending of budget revenues on tangible capital improvements over and above disbursements for defraying salaries of Government employees in the various ministries and services and routine administrative expenses of other kinds (including office supplies, etc.). Expenditures for general Government administration have, as suggested by the figures shown under item 2 of the summary table, just kept pace with the expansion of the budget as a whole.

Reference has been made above (pages 283 and 285) to the supplementing of the general budget over a period of years by the public works programme which was financed by the 1938 loan from the Export-Import Bank of the United States and under which eight million gourdes were spent on an average in each of the three financial years 1938/39-1940/41—27.5 million gourdes in all were spent in 1938-1942, inclusive—for specific development purposes. This programme, administered entirely outside the budget under the terms of the loan contract and executed by a United States engineering firm, was designed in part to offer employment opportunities to the displaced Haitians who had returned in large numbers from across the eastern border in the fall of 1937.

4. Public Debt

The particular foreign debt of which the remnant was liquidated in 1947 had its origin in the recognition by Haiti in 1825 of liability for an indemnity to former French proprietors for losses they had suffered during the wars of independence, this indemnity being financed by bonds floated in the French market. American financial interests of consequence first came into existence some years before the First World War with the acquisition by the National City Bank, New York, of shares in the National Bank of Haiti (then owned by the *Banque de l'Union parisienne*) and ownership

[1] In terms of real prices the national defence expenditures may not have been larger than in 1947/48 than in 1938/39.

of the narrow gauge railway line Port-au-Prince-St. Marc whose financial solvency was underwritten by the Haitian Government.

The foreign and domestic debt commitments of the Government involved a heavy financial burden and brought chaos into the public finances. By 1914 debt service alone absorbed some 80 per cent of total Government revenues.

During the ensuing military occupation by the United States comprehensive reorganization of the Government finances was undertaken, more especially in connexion with the floating of the 1922/23 dollar loan, which netted a total of $23.7 million, permitting complete repayment of the carry-over of the old French loans, satisfaction of the claims of the National City Bank, and refunding of the internal debt. The dollar loan, the interest on and amortization of which constituted a first lien upon Government revenues, was gradually paid off, but it represented a financial burden of great weight that proved a serious barrier to any substantial contribution by the Government to the economic development of the country. Thus, from 1925 to 1936 debt service absorbed some 30 per cent of the budget revenues, what remained being barely sufficient for elementary public services. Amortization was to proceed at an accelerated pace; in 1937, however, the load was rendered practically unbearable by the sharp decline in the prices of Haitian export produce, particularly coffee. Relief was then granted by the United States through a transitory arrangement with the bondholders under which the annual amortization was reduced to a token sum. With the recovery in exports as from the fiscal year 1941/42 payments of accrued and current interest were recommenced and, as from the 1943/44 fiscal year, amortization was resumed and at times accelerated.

The policy of the past has been criticized in certain quarters as having involved unduly rapid amortization, it being alleged that slower amortization would have made it possible to allocate funds to productive public investment while prices were still relatively low, and that such investment would have been capable of increasing Haiti's capacity to pay.

In table 15 the balance of the dollar loan outstanding at the end of each fiscal year since 1936/37 is shown, together with other elements of Haitian public debt. In the middle of 1947 the remnant of the dollar loan was liquidated in its entirety, in part through exchange of bonds of that loan for bonds of the simultaneously issued internal loan (item 3 of the table). The relevant transactions are described in some detail below. Information regarding the loan of $5.5 million received from the Export-Import Bank under the Public Works contract of 1938 has been given above. The service of this loan has been met regularly, with the result that over two-thirds of the principal had been paid off by the end of the 1947/48 fiscal year. The

TABLE 15

Haitian Public Debt

Amounts outstanding, in million gourdes, on 30 September of each year shown

	1937	*1938*	*1939*	*1940*	*1941*	*1942*	*1943*	*1944*	*1945*	*1946*	*1947*	*1948*
1. 6% loan, 1922, Series A	35.0	34.5	34.3	34.2	34.2	34.1	34.0	30.6	27.5	26.3	—	—
2. 6% loan, 1922, Series C	5.7	5.6	5.5	5.5	5.5	5.5	5.5	4.9	4.4	4.2	—	—
TOTAL 1922 LOAN	40.7	40.0	39.9	39.8	39.7	39.6	39.4	35.5	31.9	30.5	—	—
3. Internal loan 1957	—	—	—	—	—	—	—	—	—	—	35.0	33.4
4. Public Works Contract, 1938	—	0.3	8.6	17.5	24.7	27.2	27.4	21.4	17.4	15.4	11.4	8.4
5. Fiduciary currency (nickel coin)	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
TOTAL DEBT	44.3	44.0	52.1	60.9	68.1	70.5	70.4	60.5	52.9	49.4	50.0	45.4

table does not include the further loan in the amount of $5 million granted in 1941 by the Export-Import Bank to SHADA for agricultural development purposes. While guaranteed by the Haitian Government, this loan is not officially listed as a public debt. It has been spent largely on rubber plantations and also on development of sisal cultivation and forest exploitation.[1] It is serviced regularly by SHADA which has of late been amortizing it at a more rapid pace than is called for by the loan agreement. Finally, it should be mentioned in this connexion that in January 1949 the Export-Import Bank announced that it had agreed in principle to lend the Haitian Government $4.2 million for the execution of a development programme for the lower Artibonite.

The liquidation of the old dollar loan was linked up with the issue of the new Internal Loan authorized by the law of 1 July 1947, in the amount of ten million dollars (or fifty million gourdes) to serve the dual purpose of facilitating the redemption of the old debt and providing funds for purchase of equipment for the country.[2] The balance of the 1922/23 loan outstanding on 30 September 1946 was 30.5 million gourdes. Amortization during the fiscal year 1946/47 amounted to 6.2 million, reducing the balance to 24.3 million gourdes. In the absence of an organized internal market for Government bonds in Haiti recourse was had to alternative arrangements which proved feasible in view of the high degree of liquidity of the Treasury, the National Bank and the Social Insurance Account. The Treasury alone took 13.7 million gourdes, the Social Insurance Account 0.7 million, and the National Bank 9.9 million gourdes, of which 6.6 million through subscription and the remainder through exchange of bonds of the old loan.[3] Other bondholders exchanged the equivalent of nearly

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[1] Cf. chapter I, Agricultural Development and Rural Welfare, and chapter III, Industry.

[2] Under the authorization law any part of the new loan in excess of the amounts needed for redemption or conversion of the old external loan should be devoted to "purchase of equipment". This directive has been so implemented as to allow the use of the proceeds of the loan to cover expenditures for the international exposition to be opened at the end of December 1949. The budget receipts in 1947/48 from the Government "non-fiscal account" (to the credit of which the balance of the proceeds of the loan were to be carried in accordance with the provisions of the public account law) were 14.1 million gourdes, of which 5.3 million were spent in preparation of the exposition.

[3] The Treasury's subscription was made to the extent of 3.2 million gourdes from the fiduciary currency (subsidiary coins) account, 2.1 million from trust accounts, and 8.4 million from investment. Of the National Bank's subscription, bonds in the amount of 6.1 million gourdes were absorbed in the cover reserve against the note issue, while 3.8 million were booked under investments.

six million gourdes of old bonds; in addition over five million gourdes were raised through private subscription in Haiti.

The new loan matures in ten years, is subject to semi-annual amortization, and carries 5 per cent interest. Its service constitutes a first lien on the Government revenues, a feature retained from the previous dollar loan. The bonds placed on the market were priced at 99; those exchanged for old dollar loan bonds were given a premium price of 103.

The following summary shows in detail the subscribers, the amounts subscribed, the amounts of dollar bonds exchanged for new bonds, and

INTERNAL LOAN

Bonds of Series A, 5%, 1957 (in dollars)

Position as at 30 September 1947

Subscriber	*Account*	*Subscription* $	*Exchange* $	*Total (nominal value)* $
B.N.R.H.	reserve and investment	1,323,130	684,420	2,007,550
Social insurance	—	141,410	—	141,410
Government of Haiti ..	non-fiscal accounts	2,731,040	44,820	2,775,860
Bondholders	in Haiti	1,069,340	535,300	1,604,640
Bondholders	in New York	—	638,830	638,830
	TOTAL BONDS ISSUED	7,168,290 (= 35,841,450 gourdes)		

Position as at September 1948

Subscriber	*Account*	*Subscription* $	*Exchange* $	*Total* $
B.N.R.H.	reserve and investment	1,343,130	684,420	2,027,550
Social insurance	—	141,410	—	141,410
Government of Haiti ..	non-fiscal accounts	2,767,750	46,220	2,813,970
Bondholders	in Haiti	1,426,091	533,900	1,959,991
Bondholders	in New York	—	673,620	673,620
	TOTAL BONDS ISSUED	7,616,541 (= 38,082,705 gourdes)		

the total nominal value obtained by the end of September 1947 and 1948, respectively.[1]

Old bonds representing $1.9 million or nearly 40 per cent of the $4.8 million outstanding of the 1922 dollar loan have thus been exchanged for bonds of the new internal loan, while the remaining 60 per cent or $2.9 million have been redeemed. In liquidating the dollar loan the Government regained its full freedom of movement in external financial relations.

5. Local Government Finances

Administratively Haiti is divided into five departments and further subdivided into twenty-four *arrondissements,* 104 communes, and some 550 rural sections. The only vestiges of local power to tax that are to be found in the highly centralized administrative organization of today are left with the communes. While the *arrondissements* are headed by direct representatives of the executive power—the *prefets,* numbering sixteen at present, some of them being responsible for more than one *arrondissement*—the officers of each commune are elected directly by the people and comprise a

[1] The precise amounts obtained from the sale of new bonds at 99 and from conversion of old bonds at 103 were as follows:

Position as at 30 September 1947
(000's omitted)

Cash actually received from subscriptions

	Nominal value	*Cash*
1. B.N.R.H., reserve account	$1,240.0	$1,227.6
investment account	83.1	69.9
2. Social insurance	141.4	140.0
3. Government of Haiti, non-fiscal account	2,731.0	2,703.8
4. Bondholders (in Haiti)	1,069.3	1,058.6
	$5,264.9	$5,212.3

Proceeds of Exchange of old dollar loan, Series A and C bonds

	Nominal value of old bonds	*Nominal value of new issue*
1. B.N.R.H., New York account	664.5	684.4
2. Army of Haiti, saving fund, non-fiscal account	24.7	25.4
3. Civil pension fund, non-fiscal account	18.4	19.0
4. Public treasury	0.4	0.4
5. Bondholders (New York)	620.6	638.8
6. Bondholders (in Haiti)	520.0	535.3
	$1,848.6	$1,903.4

Position as at 30 September 1948
(000's omitted)

1. Subscribed	$5,678.4 at 99	—	$5,621.7 in cash	(= gourdes 28,108.5)
2. Exchanged	$1,882.6 at 103*	—	$1,938.2 in nominal value	(= gourdes 9,691.0)

* Including bonds in the nominal value of $5,320 which were turned in after the deadline and were therefore converted at 99.

magistrat (mayor) and two *assesseurs,* forming together the communal council.

The communes are classed in six categories according to importance, this grouping being of interest only to the application of the scale of the *patentes* (professional taxes) which differs from one category to another. Port-au-Prince alone belongs to the first category. A presidential decree is necessary for any commune to pass from one to another category, population number and amount of revenues collected being the principal deciding factors in the category determination.

Three epochs may be distinguished in the history of the financial organization of the communes:

(1) Before 1932 the communes had theoretically complete control over their finances. Receipts were collected by the agents of the communes and expenditures were made by the cashier under the control of the communal council.

(2) Under the *Arrêté* of 13 October 1932, in force until September 1941, the Government gave the Internal Revenue Service the power to collect all taxes of all the communes except Port-au-Prince; but the communes kept their right to make expenditures as they saw fit according to their own budgets, without any control from the central administration.

(3) By the *Arrêté* of 29 September 1941, the Internal Revenue Service was given authority to collect all revenues of the six classes of communes, including Port-au-Prince, while the board of directors of the National Bank of Haiti and the Department of the Interior were made responsible for checking the expenditures of the communes as a prerequisite to their being allowed to dispose of their income. Very recently the board of directors of the Bank has been relieved of this obligation, the control now being exercised by the Department of Finance in addition to the Department of the Interior.

Thus the communes have had no independence in their financial affairs since 1941. While most of them were then in a fair financial position, some communes did not collect enough revenue to defray their costs of administration. To remedy this situation the Decree-Law of 28 August 1942 was promulgated allowing the President of the Republic to suppress any commune whose receipts were insufficient to defray its charges and to merge it with an adjacent one into a *quartier*. As a result the number of communes decreased from 120 to 104.

The budget of each commune is prepared by the Council of the Commune before being sent to the Minister of the Interior for discussion and preliminary approval; when so approved it is sent to the Minister of

Finance for final approval and signature. The Minister of Finance has the power to reduce or to increase the appropriations. If additional appropriations are needed, they are subjected to the same procedure as the initial budget.

There are in all twenty-one sources of communal receipts, seventeen of which are commonly found to be active. The most important are: the town market tax, the *patente* (professional tax), the property tax, the slaughtering tax, the parking tax, the fees on certificates for selling livestock, and the public rural market tax. Tax rates are fixed or approved by the national legislature.

Local government receipts, as will be seen from table 16 and from chart XII (where they are plotted for the period 1941/42-1947/48) are very small in comparison with central Government receipts. In view of their nature and the method of their assessment they have proved insensitive, on the whole, to the economic fluctuations that have taken place in the past fifteen years covered by the table. Though they have tended to increase slowly since 1941/42[1] their growth has lagged considerably behind the simultaneous rise in prices. The movement of the sundry receipts ("all other") item of the table has been influenced by the dropping out from communal receipts, in the late thirties, of fees on motor cars and identity cards and the addition in subsequent years of transportation taxes.

[1] The figures for preceding years are not strictly comparable for the reason given in the footnote in the table.

TABLE 16

Local Governments' Receipts

(in 1,000 gourdes)

	1933/34	*1936/37*	*1940/41*	*1941/42*	*1945/46*	*1947/48*
Property rental tax	189	169	166	429	479	594
Professional taxes (*patentes*)	301	351	205	422	499	629
Urban market fees	416	514	450	673	792	945
Rural market fees	116	23	70	113	188	250
Livestock market fees	70	96	82	129	181	234
Parking for animals	201	212	164	198	209	240
Slaughter fees	248	255	240	333	345	354
All other	279	230	119	163	216	239
TOTAL	1,820	1,850	1,496	2,460[1]	2,909	3,485

Source: Annual reports of the *Direction des contributions.*

[1] The apparent increase in communal receipts from 1941/42 on reflects the inclusion in the statistics of centrally collected receipts as from that year of those of the commune of Port-au-Prince which were previously collected independently.

Local government expenditures relate mainly to salaries. The expenditures of the commune of Jacmel in the fiscal year 1943/44 summarized below will serve as an illustration:

	Gourdes
Salaries of officials, repair, maintenance of premises and sundries	34,102
15% to Tax Administration for collection services	7,500
8% to Department of Interior for special police force	4,000
Services rendered to the community	3,615
	49,217

The 3,615 gourdes of services rendered to the community were divided as follows:

	Gourdes
School subsidy	600
Parish school	600
Priest	1,155
Markets and parking for animals	510
Maintenance of cemetery	200
Repair of market tables	150
	3,615

Another illustration of how the communes spend their receipts is afforded by the 1947/48 budget estimate of Cap-Haitien, the largest provincial town of Haiti:

	Gourdes
Education	11,880
Public assistance	6,200
Public health	1,800
Other expenditure of communal interest	14,580
15% cost of collection	18,750
10% interim contribution	12,500
Other contributions	1,910
Administration, salaries, furniture, electricity, etc.	57,050
	124,670

The local governments have as a rule been conservative in their expenditures; consequently most of them have accumulated surplus balances. In 1944 a law was voted to the effect that these surpluses should be credited to a special account called "Reserve for Communal Public Works" (Decree Law of 25 September 1944). Once passed to this account at the end of the fiscal year, the surpluses no longer belonged to the communes, but were to be distributed by the central Government as follows:

25 per cent for asphalt works;

25 per cent for school buildings and school equipment in towns and communes;

10 per cent for hygiene and sanitation;

10 per cent for the construction of the University Library in Port-au-Prince;

15 per cent for fire service in towns and communes;

15 per cent for communal public works.

In 1948, however, a law was voted giving the communes the power to spend their surpluses at will. Utilization of surpluses, nevertheless, still requires approval of the Interior and Finance Ministers, as in the case of current budget expenditures.

The communes are autonomous in principle under the national constitution, but in actual practice their autonomy is narrowly limited by the various measures of central Government control referred to above. Apart from not allowing the communes to run into deficits, this control is designed to ensure that some substantial part of their very meagre revenues after coverage of collection costs is used for providing schools and related educational facilities and for various other specific purposes, deductions being made accordingly from their gross receipts as shown in table 17.

TABLE 17

Deductions made by the Internal Revenue Service from gross receipts of the Communes[1]

(in 1,000 gourdes)

Deduction purposes	*1944/45*	*1945/46*	*1946/47*	*1947/48*
1. 15% for Internal Revenue Service	450.6	436.4	495.1	522.8
2. 10% for Department of Interior	300.4	291.0	330.0	2.2
3. 10% for construction of rural and urban schools	—	—	—	346.3
4. Communal schools, libraries, and local police	112.8	112.8	112.2	114.8
5. Scholarship for Salesian schools	—	—	—	9.0
6. Purchase of tools for peasants	—	—	24.4	22.4
7. Contribution to Pan-American Commission of Inter-Municipal Co-operation	2.4	0.2	0.3	0.8
8. Inspection and control of communal affairs	28.0	27.9	27.0	59.8
9. Electricity in Cayes	13.2	13.2	13.2	13.2
TOTAL DEDUCTIONS	907.4	881.5	1,002.2	1,091.4
TOTAL GROSS RECEIPTS	3,003.8	2,909.4	3,300.6	3,485.4
TOTAL NET RECEIPTS	2,096.4	2,027.9	2,298.4	2,394.0

[1] Details available only for the last four fiscal years. Deductions for earlier years were 950.9 in 1941/42; 1,082.2 in 1942/43; and 880.5 in 1943/44.

The 15 per cent deduction shown as item 1 serves to defray the costs of collection of communal taxes and fees by the Internal Revenue Service. The sums in the amount of 10 per cent of gross revenue that are deducted under item 3 are credited to a "non-fiscal" account for school construction purposes. This account is operated by the Ministry of the Interior. Up to 1946/47 this 10 per cent contribution from communal receipts was credited to a special fund administered by that Ministry (item 2) for the account of the Army of Haiti. The percentage deductions here referred to are termed variable because they vary with the total of the revenues collected.

The other items of table 17 are fixed-sum deductions for the purposes indicated—items 4 and 5 mainly for educational purposes. Item 6 represents a fixed contribution by ninety-six communes. This contribution is expended in consultation with the Ministry of the Interior by the Finance Ministry which purchases on behalf of the *Magasins de l'Etat* machetes and other tools for distribution to peasants on "Agricultural Day", 1 May. Sums under item 8 are collected monthly and credited to a communal service account of the Ministry of the Interior. The other items are self-explanatory.

By means of the deductions shown for the last four fiscal years in table 17 the central Government withheld from the free disposal of the communes about one-third of their revenue after having some years earlier withdrawn from them the power of taxing motor vehicles and identity cards. The financial weakness of the communes rendering them incapable of accomplishing much in their own sphere reflects political weakness. A buttressing of the local government structure through strengthening of its financial basis in conjunction with delegation of increased responsibility for maintenance and improvement of roads, sanitary installations and other public service facilities would be of benefit for the broad economic development of the country.

C. THE FUNCTIONING OF THE FISCAL SYSTEM

The fiscal system of Haiti maintains essentially the organizational pattern in which it was cast several decades ago to serve as an instrument of Government financial administration with primary emphasis on meeting the external financial commitments of the country. Of these commitments, those to which political conditions were attached have been liquidated. The Government is free to reshape its revenue and expenditure policy so as to place the emphasis on economic development needs, and may well in that connexion give consideration to such organizational reform of the fiscal administration and the division of functions among its different branches as would eliminate unnecessary overlapping and help to improve the working of the system.

Certain reforms which we consider desirable are suggested in broad outline below. For the elaboration in practical detail of any of the suggested reforms, the advice and assistance of public finance technicians should be sought. The Mission is well aware of the fact that, so far as the Fiscal Department of the National Bank is concerned, only such organizational changes as are compatible with the law authorizing the ten-year Internal Loan of 1947 can take effect during the period of that loan (cf. page 277).

1. Fiscal Administration and Budget Procedure

Certain ambiguity obtains in actual practice with respect to the division of functions as among the various fiscal authorities operating in one sector or another of the field of Haitian public finance as described in the preceding sections. There is need for an organic law of public administration, a law defining clearly the authority, duties, and sphere of activity of each ministry, department, and service. Once the responsibilities are properly defined in the light of the demands necessarily placed on the central Government by a national effort towards economic development, it will be realized that improved co-ordination and great concentration of the various tasks and the organs performing them in the field of public finances is called for.

It would be desirable that the activities of revenue administration be concentrated in due course in the hands of a General Revenue Office in the Ministry of Finance which should be responsible for the unified administration of all State revenues. This Office may be subdivided according to need into, say, three or four administrative sections, each in charge of an organic group of taxes and fees.

Any one of three alternative avenues may be chosen in effecting this concentration: (*a*) setting up the General Revenue Office as an entirely new unit and transferring to it the tax administration functions of the Fiscal Department of the National Bank[1] and of the *Direction des Contributions;* (*b*) incorporating the Fiscal Department constitutionally (when such a measure becomes legally feasible)[1] into the Ministry of Finance, making it the General Revenue Office and, hence, transferring to it the functions of the *Direction des Contributions;* (*c*) transforming the *Direction des Contributions* into the General Revenue Office and, hence, transferring to it the tax administration functions of the Fiscal Department.[1] The choice between the three alternatives would be determined largely by practical considerations. In principle the utilization of an already existing and operating organization as basis for the suggested General Revenue Office is to be recommended, and care should be taken not to sacrifice such features of any one of the existing revenue administration agencies concerned as

[1] Cf. observation on page 277.

have proved of practical value, but rather to apply them throughout the unified administration.

The General Revenue Office should be consulted in all matters relating to fiscal legislation.

The *Chambre des Comptes,* primarily concerned with the legality of expenditures incurred, should, in addition, pay closer attention than has been the case in the past, to the efficiency aspect of the spending of Government funds.

Divided responsibility for the budget preparation is not desirable, as it makes co-ordinated fiscal planning extremely difficult. The budget should be a policy guide and programme of activities and not a mere enumeration of services, salaries, supplies, and equipment to be paid. It should intimately reflect if not define the Government's plans of activity in the economic and social fields and should indicate how the means for carrying out these activities and all other functions of the State are to be provided. This is obviously a task to be undertaken centrally under close supervision of the head of the Government. It would be logical to entrust it (as has been done in other countries having realized a higher degree of advancement than Haiti) to a Bureau of the Budget having direct access to the head of the State. Elsewhere in this report it is envisaged that the secretariat of the proposed National Resources and Development Board should be similarly situated. Whether the Bureau of the Budget was made an integral part of that secretariat or was set up as a parallel service, it would have the benefit of close contact with the economic planning within the frame of which the budget should be formulated.

On the basis of the findings made by the Economic Development secretariat and the Research and Statistics Service of the National Bank (see part II, chapter V, Credit Organization, pages 273-274) in their continuous examination of Haitian economic conditions in relation to economic trends abroad, and especially in the principal markets for Haiti's export products, it should be possible for the Budget Bureau to produce revenue estimates in greater detail and less remote from probable yields than those furnished in the past by the Ministry of Finance assisted by the Fiscal Department of the National Bank. It should then be possible for the budget plan as submitted to the Legislature for examination and approval to provide a more definite basis for the allocation of expenditures, leaving a narrower margin than hitherto for piecemeal adjustments in the course of the budget year, a procedure which is not very compatible with consistent economic planning.

The form of presentation of the budget lacks in clarity and logic of classification, on the one hand of current receipts and expenditures, and on the other hand of capital account changes in assets and liabilities of the

State. We would suggest the adoption of a budget system based on the *modern principles applied in the Scandinavian countries. The Haitian* budget could easily be so adapted in form as to comply with these principles. Only minor modifications of the law on public accounts would be required for the purpose. Annex table 20 illustrates in broad outline how the Haitian budget classification may be adapted to the Scandinavian model.

2. Sources of Revenue

In its search for State income the Government has naturally been guided by considerations of immediate yield of the different sources of revenue and considerations also of the facility of revenue collection from one or the other of these sources. In the interest of longer-term development account must also be taken of the repercussions which the tax exploitation of the different sources may have on the economy of the country. These various considerations are apt to conflict in certain instances and must then be carefully weighed against each other.

The Haitian system of customs duties has so far been purely fiscal in purpose, paying little heed to broader economic aspects. Earlier in part II of this report (see in particular part II, chapter III, Industry, pages 195-197) we have recommended that the whole system be thoroughly examined with a view to structural revision in the first instance of the import tariff to render it concordant with economic development aims. A recast of the tariff nomenclature to conform with modern standards of economic classification is required. We recommend that a working party of manageable size comprising not more than five or six representatives of the ministries and departments most directly concerned and a restricted number of experts, Haitian and foreign—including an expert or two drawn from international organizations competent in the field—be set up at an early date to study the problems involved in a tariff revision of the above nature, to formulate the principles to be applied in the revision, and, in the light of these principles, to work out a detailed draft for a new tariff law.[1] Such revision, while entailing adjustments of rates in many individual cases, may well be so devised as to leave the general level of import duties substantially unchanged. Inasmuch as the revision should help in developing the economy, and hence in strengthening the country's capacity to import, it is but reasonable to expect an expanded yield in the long run of this source of revenue.

The taxing of exports is a traditional device for raising State revenue in Haiti and has in the past been mainly applied to coffee, as shown in the

[1] According to information received in June 1949, a committee had actually been set up some months earlier on the initiative of the Department of Finance to undertake a revision of the tariff.

preceding section. From a purely fiscal point of view, export duties have the merit of being easy to collect. Where a country commands a monopoly position on the international market for any one of its products, the burden of a duty levied on the exports of that product may be shifted, at any rate in large part, on to the foreign buyers. Haiti is not in such a situation generally, and especially not with regard to its principal export product, coffee, the incidence of the taxing of which is hence domestic. As the coffee is grown by an infinite number of unorganized small producers entirely dependent on the merchant-exporters (or their buying agents) for the sale of their crop, these latter are in a position to shift—through the price mechanism—the burden of the export tax, together with intervening costs and commissions, back on to the peasants, who are very poor, generally in debt to the middlemen-dealers, and the least capable of sustaining cumbersome taxes. The small remuneration they receive keeps their purchasing power exceedingly low and tends to discourage them from continuing the cultivation of coffee. In the circumstances, therefore, the heavy taxing of the export of this product has detrimental effects on the economy of the country, and this is true also, though in less striking degree, of certain of the export duties levied on other crops produced in Haiti.

Now it may be argued that the export-tax mechanism may be so employed as to induce a switch-over in the production of any given crop to high qualities commanding higher prices and hence offsetting in some degree the effects referred to above. This is avowedly the purpose of the "normal tax" on coffee exports (see page 291 above) which is designed to encourage production of higher grades of coffee by application of a sliding scale of rates rising inversely to the quality, i.e., the lower the grade the higher the tax. This aim might have proved capable of realization in some degree provided that price differentiation according to quality were actually applied in buying coffee from the peasants. This has not been the case, however, the *speculateurs* (middlemen-buyers) commonly offering the peasants a single price, irrespective of the grade of the coffee bought. In actual practice the exporters prefer the premium grades of coffee because of the tax preference, but the price differentials have not been "worked back" to the producers. The commendable purpose of encouraging quality production can in actual practice hardly be achieved by a tax differentiation of the kind attempted; to this end other more direct means should be tried as suggested in part II, chapter I, Agricultural Development and Rural Welfare.

The war tax on coffee exports which was designed as an emergency revenue measure but has been maintained in permanence should be reconsidered with a view to its early repeal, as it unduly burdens the coffee production in peacetime. There is need, in fact, for a reform of the whole

coffee export-tax structure. Until other revenue sources have been developed in sufficient degree to allow doing away with it entirely, a single and gradually lowered tax—flat or progressive—should be substituted for the three or four separate export taxes now encumbering the coffee production. The duplication, triplication or quadruplication of taxes on one and the same crop is economically unsound and tends to stifle production. Moreover the different taxes now levied on coffee are mutually inconsistent; for instance, the progressive surtax, rising with the price and thus hitting the high grades of coffee more heavily than the low grades, runs counter to the avowed aim of the "normal tax".

In the conditions under which they work in Haiti, the export taxes on agricultural staples are on the whole discriminatory in nature, discriminatory, that is, against the producers of certain crops, and indeed those which have proved most profitable for the country to export. Hence they are undesirable and at worst directly harmful to the economic development of the country, and ought to be abolished. Evidently, since they are at present quite an important source of revenue to the State they cannot be repealed by one stroke, but only gradually, *pari passu* with the development of other revenues in sufficient degree both to compensate for the curtailment of export-tax yield and to meet such expansion of Government expenditure as is warranted by the economic advancement of the country. It is recommended that measures be taken meanwhile to remove such obscurities as now attach to the export-tax laws and regulations, to make their wording precise, to simplify their application, and in this connexion to consolidate so far as possible into a single tax the different export taxes that are now in several cases levied on one and the same product.

Among the additional sources of Government revenue the income tax, relatively little exploited so far, holds the greatest promise. It has the merit, and more so than most other forms of taxation, of being assessed in principle in relation to the ability to pay of those who are subjected to it. Moreover, it is flexible, varying, when levied on a "pay-as-you-go" basis, directly with the fluctuations in income, in such manner—if it is also progressive—as to lessen the tax burden when income shrinks and raise it when income expands. While this is an advantage for the taxpayer, it introduces, it is true, an element of potential instability in State revenues, the less elastic items of which, however, tend to vary less with the changes in economic activity.

In Haiti a great part especially of the peasant population is unlikely for some considerable time to come to realize personal incomes in excess of even moderate basic exemptions for persons with dependants. It would be a mistake to try to compensate the absence of income tax from the broad

layers of the population by heavy taxation of larger or high incomes, whether personal or corporative; for it is from the large incomes that the bulk of savings and capital formation is derived. Income tax rates that may seem relatively moderate in economically advanced countries—as a rule comparatively well provided with capital relative to unexploited investment opportunities—may well, if applied in an underdeveloped country such as Haiti, where a much broader margin of risks must be provided for, prove a serious deterrent to the establishment of new enterprises, enlargement or modernization of old ones, or investment in other forms. Hence, Haiti would be well advised to maintain a comparatively slow progression and a comparatively low ceiling of income tax rates until substantial headway has been made in her general economic development.

The law enacted in Haiti in September 1948 instituting a comprehensive income tax is in essential respects development-conscious. With regard to its technical aspects, however, it would have gained from a more thorough preparation. There are flaws and ambiguities in the detailed provisions which call for amendment of the law with a view to its clarification, improvement, and completion. In this connexion the following points deserve particular consideration:

1. The ambiguity arising from the maintenance in force (by implementation decree) of certain provisions of the business income tax law of 1942 as alternatives to those of the new law requires clarification.

2. The taxable income of business enterprises should be determined wherever possible on the basis of profit and loss accounts. In the absence of such accounts, the taxable income should be estimated by the tax administration on the basis of several appropriate criteria. The rental value (of the property in which the business is located) used so far as the single criterion does not seem particularly appropriate.

3. Corporations should in principle be allowed more adequate deductions than are at present permitted in respect of salaries (including those of executives) and other business expenses in computing their net income for taxation purposes.

4. Means should be sought to obviate evasion of the income tax on the part of those exercising liberal professions and of other independent income earners.

5. Within the scale of taxable incomes laid down in article 6 of the new law a greater number of intermediary income brackets should be introduced so as to moderate the progression of the rate of taxation.

6. Although the problem of international double taxation is not pressing in Haiti at present, it would be desirable to amend the law by inserting

provisions clearly stating the criteria by which tax liability in this respect is imposed on persons and incomes, and defining to what extent the foreign income of nationals or residents and the domestic income of non-residents is to be subject to the income tax.

7. Special provision should be made to ensure secrecy of the tax returns.

In reconsidering the income tax law it will be beneficial to take into account parallel experience gained in other Latin-American countries which, confronted with problems similar to those of Haiti, have recently introduced new income tax laws or modernized their previous tax legislation.

The excess profits tax as applied in Haiti is in effect another export tax superimposed on those already levied on the principal agricultural export products of the country, and is open to the same criticisms as were made above with reference to the export duties. Serious consideration should be given to the possibility of its early repeal on economic development grounds. If retained, it should, in the interest of equity, be so modified and broadened in scope as to be capable of application to all "excess profits" from whatever source derived.

Among the excise taxes, that on alcohol production is conspicuous for its low yield. In other countries whose alcohol production would appear to be roughly comparable to that of Haiti the yield from this tax is proportionately much greater. The reason for the low yield in Haiti is no doubt to be sought largely in the method of assessment, the tax now being levied on equipment rather than on output. The latter basis would seem to be more logical and economically more sound, and should be capable of yielding increased revenue to the State. The tax on tobacco products is another excise capable of higher yield in the relatively near future, particularly if large-scale manufacture of cigarettes is undertaken, in which event, however, part of the increase in the tobacco excise will be offset by consequent contraction in the customs revenue derived from imported cigarettes. In the long run, of course, the expansion in excise revenue will be essentially determined by the rise in the general standard of living, that is, in consumers' purchasing power, which in turn will depend on the rate of general economic advancement of the country.

There do not appear to be any major new sources of tax revenue lending themselves to profitable exploitation in the near future. In part II, chapter I, Agricultural Development and Rural Welfare, we have discussed at some length the problems and possibilities of a land tax, and have concluded that in the absence of a cadastre it could not be effectively assessed. Even were there a cadastre in existence, the operation of a land tax would be impracticable, if not unfeasible, in view of the fact that most of the land is divided into a very large number of very small peasant holdings. Trained personnel

who could levy and collect such revenue are lacking; the cost of administration would be high, while the collections would be very small; the resulting ratio of expenses to revenue would be so excessive as to render any attempt to impose a land tax not worth while. Indeed, even in countries with many years' experience of a land tax, relatively insignificant revenue is in fact derived from this source. As a more practicable and on the whole more promising alternative in Haiti, where so large a proportion of the land under present cultivation is *de jure* the property of the State, we have (in the recommendation 7 of chapter 1) proposed the institution of a system of leasehold from which appreciable revenue could be derived and put to good use in support of the development of agriculture and the rural economy.

Where they can be effectively operated, sales taxes may yield quite considerable revenues. They have, however, the weakness of being regressive and unpalatable to a large segment of the population. This weakness is of particular consequence in Haiti where a highly regressive tax could hardly be operated effectively at present low levels of income and consumption. The further fact that a large proportion of the sales personnel even in the larger towns cannot read and write raises serious obstacles to the handling of sales taxes in actual practice, and highly complicates their administration. In these circumstances sales taxes are not recommended for application in Haiti for the time being.

3. Allocation of Expenditure

The rise in State revenues in the post-war years has enabled the Government to expand expenditures vigorously. In 1947/48 they were twice as large as in 1945/46, having been increased more rapidly in fact than the receipts: in consequence—as shown in table 11, page 283—the budget surpluses of 4.1 and 4.9 million gourdes, respectively of 1945/46 and 1946/47 were replaced by a deficit of 4.9 million gourdes in the last completed fiscal year, 1947/48. Reference to table 14, page 295 and annex table 19 will show that this expansion was effected above all in the budget items which concern activities for economic purposes, administered e.g. by the Departments of Public Works, Agriculture, and National Economy. The very marked increase in allocations to public works, which in 1947/48 constituted the largest single expenditure item, chiefly reflects expenditures incurred in prepartion of the forthcoming exposition at Port-au-Prince (cf. page 299, footnote 2). This enterprise, for which a credit of about twenty million gourdes has been voted so far, is not likely (any more than has been true of general expositions held in other countries in the past) to prove an immediately profit-yielding proposition, but is expected by the Government

to be development-promoting in its effects and thus to be generally remunerative to the economy of the country in the long run.

Expenditure in an economy committed to development will not only be made for the rendering of essential current services, but will be directed towards expansion of material productivity. Economic justification for an enlarged volume of expenditure will be found in a rising output of goods and services, a rising level of income, a rising standard of living, and, from the point of view of the public finances, a rising tax capacity. The expenditures for development purposes should aim at being self-liquidating, and may, in particular instances, be more than self-liquidating, depending upon the effectiveness of the undertaking; but the balancing of costs against receipts will need to be over a period of time; hence, long-range planning and long-range budgeting are required. Budgeting in Haiti has not satisfied this requirement in the past.

In the planning of expenditures the Government will be aware of the inflationary risks involved in their rapid expansion.[1] This consideration, as well as concern for the burdens imposed on the taxpayers, calls for economy of expenditures not only in the sense of avoidance of waste and achievement of maximum efficiency in the use of those incurred. Careful determination of priorities in line with clear differentiation of two basic types of expenditures is required. Current administration expenditures, military expenditures, and public debt service belong to the type of expenditures to be held at an "irreducible" minimum above which priority is to be given to expenditures designed to raise the level of productivity and to improve education and health standards to that effect, or, in short, to bring about a betterment of the conditions of life of the people. The basic distinction between the two types is that between the current service function and the developmental function of the Government expenditure. Much of the outlay of the latter type is in the nature of capital investment which, if wisely and effectively applied, should be capable, particularly in an underdeveloped economy, of bringing forth within a reasonable length of time the means required for its repayment. Hence, there is a logical basis for a two-part budget differentiating between current expenditures and capital expenditures.

[1] Although the accelerated rate of Government spending may have contributed in some degree to the price rise in Haiti in recent years, it is pertinent to observe that this rise, manifesting itself most acutely in the prices of imported goods, has been essentially of external origin. Domestic prices are still low on the whole in comparison with those of most other countries and, as pointed out in chapter V, Credit Organization, page 227, the relative rise in the general price level would appear not to have been much out of line with that in the United States, Haiti's principal customer and supplier. An attempt to neutralize the rise in prices of the imported goods (most of which are of the nature of necessities) would have required internal deflationary measures of a scope incompatible with economic development needs.

Expenditures to provide for current services should logically be financed from and be fully covered by current revenues. Developmental expenditures intended to change the economy itself or to produce benefits accruing to it over a period of years should logically not be tied inflexibly to current revenues and must not necessarily be balanced each financial year, but rather over longer periods, the length of time depending on the nature of the investment. Organization of the budget on the Scandinavian model suggested above (page 309) for adoption as a guide and illustrated in broad outline in annex table 20, would be of help in applying this differentiation, in keeping track of the evolution of the two types of expenditure, and in appraising the true budget position.

It should be realized that capital expenditures are only justified by the soundness of their purpose and of the results that they may reasonably be expected to yield. Particularly careful consideration and scrutiny of each project proposed to be placed on the capital budget is required before it is authorized, and there must be assurance that qualified personnel are available to handle it efficiently. Furthermore, inasmuch as the introduction into the budget policy of greater flexibility in the sense here discussed would involve relaxation in some degree of restraints operating in the past, the inflationary propensity of large size capital expenditures must be borne in mind. In times of inflationary pressure utmost caution must therefore be exercised in incurring such expenditures, which should then be kept at a strict minimum.

4. Reporting of Fiscal Accounts

Though the reporting of Government financial operations is relatively better in Haiti than in several other countries, it needs improvement in various respects.

1. Consolidated statements should be published covering all the four main categories of accounts, namely: (*a*) central Government accounts; (*b*) accounts of autonomous agencies; (*c*) "non-fiscal accounts"; (*d*) local government accounts. Such consolidated statements would furnish a more satisfactory frame for the financial statistics than is now provided.

2. It is desirable that, in the consolidated statements, distinction be made between current budget accounts and capital budget accounts, in the manner shown in annex table 20. The grouping there applied may serve as a guide for the classification of receipts and expenditures. It is the practice in some countries to issue a pamphlet classifying all receipts by sources and all expenditures by purpose, and giving a short explanation of each item. It would be worth while to follow this example, and in that connexion undertake a consolidation of all tax laws and decrees.

3. The annual report on the status of the public finances should (*a*) clearly indicate how surpluses have been disposed of and deficits covered, (*b*) contain a table showing the sources of all Government funds and how the funds have been used, and (*c*) reconcile the balance sheet of the Treasury with the public debt statements and with the records of Government accounts at the National Bank.

4. A complete inventory of all Government properties, immovable or movable is needed. Such inventories as may have been made in the past would appear to be incomplete and have not been published.

5. The system of the "non-fiscal" (i.e. non-revenue) accounts in the public finance picture requires clarification. These accounts, consisting of some eighty entities, operated outside the budget, are of four types: (*a*) transfer accounts (administrative accounts through which the transfer of funds between the central Government, the communes and special funds is operated); (*b*) trust funds; (*c*) certain taxes, fees, contributions and proceeds from borrowings;[1] (*d*) operational receipts and expenditures of certain public enterprises.[2] While the first two types may properly be classified as non-revenue accounts, the last two groups embrace true revenue and expenditure accounts and should be brought in under the general budget in

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[1] This group includes the following accounts (1947/48 fiscal year):

	Receipts	*Expenditures*	*Purpose of expenditure*
	(in 1,000 gourdes)		
1. One-third of profit of the National Bank	432	294	Export promotion
2. Special consular stamp..	103	113	Furnishing of consular offices
3. Levy of 0.25 gourdes per stem of bananas exported	495	470	Combat of banana disease
4. Fees for permits to cut wood	179	194	Salaries and expenses of agricultural agents for prevention of deforestation
5. Appropriation to the National Coffee Bureau..	140	166	National Coffee Bureau operations
6. Proceeds from the sale of bonds	14,120	5,278	Preparation of Exposition

Lately two more taxes, the *Contribution civique* and the new tax on automobiles have been added to this group.

[2] These enterprises and their receipts and expenditures in 1947/48 were:

	Receipts	*Expenditures*
	(in 1,000 gourdes)	
1. Telephone, telegraph and radio	1,192	1,217
2. Government printing press	803	883
3. Hydraulic service	563	544
4. Electric service at Gonaïves	57	40
5. Military air lines—civil passenger transport	277	311
6. Operation of Coast Guard Navy Yard for boat repairs	140	152
7. Operation of garage for repair of cars, trucks, etc.....	544	520

the manner suggested in annex table 20, as should also the aggregate net balance, be it a minus or a plus quantity, of the items that continue to be shown as "non-fiscal accounts".

6. Study should be made of the possibility of utilizing the trust funds to assist in the financing of productive development projects.

5. Relationship between Local and Central Government Finances

In conclusion of the analyses made earlier in this chapter of the budget position of the communes, we gave expression to our view that a buttressing of the local government structure by strengthening its financial basis would be of benefit for the broad economic development of the country. The Government may see fit to set up a commission to study and report on the possibilities and the means for bringing about a reform to that end. A delimitation of the tax power of the central Government *vis-à-vis* those of the communes would be one of the main study assignments of such a body, i.e., it would have to define the revenue sources that might appropriately be reserved for exploitation by the communes[1] rather than by the central Government.

On the other hand, the communes may be allowed to retain a higher proportion of their revenues for their own use. The 15 per cent deduction charged by the Internal Revenue Service for the collection of communal revenues would appear to be unduly high. Other fixed or variable deductions may also be reconsidered with a view to their reduction or withdrawal. Furthermore, the central Government may consider leaving to local governments a wider latitude in the use of their revenues and in handling local affairs generally. Reform of the existing legislation would be needed to that end.

D. SUMMARY OF SUGGESTIONS AND RECOMMENDATIONS

Since section C above is in essence a summary of observations and conclusions, suggestions and recommendations, it will suffice here to give merely a reference list for the convenience of the reader. The Mission recommends that:

With regard to *fundamental objectives*:

1. The Government proceed to reshape its revenue and expenditure

[1] Typical among such resources are: (1) market fees; (2) professional licences (*patentes*); (3) fees and taxes on vehicles; (4) cemetery fees; (5) funeral fees; (6) permits for the construction of sepulchres; (7) sanitation service fees; (8) disinfection fees; (9) fees for provision of light; (10) concessions granted on communal property; (11) proceeds of sales and rent of communal property; (12) property tax on immovables located within the limits of the commune; (13) fees and taxes for utilization of local government public works and services; (14) fines of various kinds; (15) permits for construction and repair of buildings, for fishing and hunting, for cutting of wood, for extraction of sand, stones, etc.

policy so as to place the emphasis on economic development needs (page 306);

As concerns the need for *reform of the public administration*:

2. An organic law of public administration be provided, defining adequately the authority, duties and sphere of activity of each ministry, department and service (page 307);

3. Steps be taken with a view to the introduction in all branches of the fiscal administration within the near future and gradually throughout the whole public administration of a system of recruitment based on competitive examination such as that successfully applied for many years in the case of the Fiscal Department of the National Bank;

As concerns the need for *fiscal reform*:

4. Advice and assistance of public finance technicians be sought in undertaking the organizational reform required for improving—through redistribution of functions, elimination of unnecessary overlapping, adoption of rational methods of work, etc.—the operation of fiscal system (page 306): [Experts to assist in this task may be provided by the United Nations through its machinery for technical assistance for economic development].

5. Consideration be given to the creation in due course of a General Revenue Office in the Ministry of Finance to be responsible for the unified administration of all State revenues and to be consulted in all matters relating to fiscal legislation (page 308);

As concerns the *budget preparation*:

6. The budget be conceived as a policy guide and work programme intimately reflecting, if not defining, the Government's plans of activity in the economic and social fields (page 308);

7. A Bureau of the Budget having direct access to the President of the Republic be organized to handle—in close contact with the secretariat of the National Resources and Development Board—the budget preparation, including preparation of revenue estimates and of proposals for allocation of expenditures, in harmony with the general economic planning within the setting of which the budget should be formulated (page 308);

As regards the *sources of Government revenue*:

8. A structural revision of the import tariff with a view to shifting the emphasis from the purely fiscal aspect of revenue collection to the broader considerations of economic development promotion be undertaken at an early date with assistance from the international organizations competent in the field;[1]

[1] Cf. footnote on page 309 regarding the Tariff Committee set up early in 1949.

9. The whole system of export duties and assimilated taxes on agricultural staples be re-examined with a view to early repeal of those that are most harmful to production and hence to the economic development, substitution where possible of a single and gradually lowered tax for the several separate export taxes levied on one and the same product, and overhaul of the export-tax laws and regulations to remove obscurities, make their wording precise, and simplify their application (pages 309-311);

10. A comparatively slow progression and a comparatively low ceiling of income tax rates be maintained until substantial headway has been made in the general economic development of the country (page 312);

11. Re-examination be made of the income tax law of September 1948 with a view to its clarification, improvement and completion in the different respects detailed on pages 312 and 313, account to be taken in this connexion of parallel experience gained in other Latin-American countries confronted with problems similar to those of Haiti;

12. Serious consideration be given to the possibility of early repeal, on economic development grounds, of the product-discriminatory "excess profit tax" levied on certain agricultural export products, or to such modification of this tax—if it is retained—as will make it capable of application to all "excess profits" from whatever source derived (page 313);

13. The method of assessment of the excise tax on alcohol production be so modified as to increase its yield (page 313);

14. In the absence of conditions propitious to effective operation of sales taxes, this form of taxation should not be attempted in Haiti until substantial economic advancement, with concomitant rise in the levels of living and education have been achieved (page 314);

As concerns *tax exemptions* under special contracts or concessions:

15. In granting taxation favours, due consideration be given to their compatibility with the long-term aspects of economic development as well as to the curtailment of Government revenue that they involve (pages 293-294);

As concerns *allocation of expenditure*:

16. In planning expenditures and appropriating means for meeting them, due differentiation be made between (*a*) expenditures designed to provide for current services to be covered in full each year by current revenues, and (*b*) developmental expenditures which, to the extent they are capable of raising the level of production and bringing about a betterment of the conditions of life of the people, will produce benefits accruing to the economy over a period of years and may therefore be balanced over such longer periods, the length of time depending on the nature of the investment (pages 315-316);

As concerns the *form of presentation of the budget:*

17. Consideration be given to organization of the budget according to the modern principles of budgeting evolved in the Scandinavian countries and the adoption of which would be of help in applying consistently the differentiation between "current account" expenditures and "capital account" expenditures, in keeping track of the evolution of the two types of expenditure and in appraising the true budget position (pages 308 and 316, and annex table 20 with explanatory commentary, pages 324-327);

As concerns *public finance reporting and accountancy:*

18. The reporting of the position and movements of the public finances be improved in accordance with the suggestions and proposals detailed on pages 316-318.

As regards *trust funds:*

19. Study be made of the possibility of utilizing the trust funds to assist in the financing of productive development projects (page 318);

As concerns the *financing of local government activities:*

20. A commission be set up to study and report on the possibilities and the means for buttressing the local government structure by strengthening its financial basis, leaving to the communes a wider latitude in the use of their revenues, and enabling them to shoulder increased responsibilities under the broadened national effort needed to achieve the desired economic development of the country (pages 306, 318).

TABLE 18

Budget Receipts

(in millions of gourdes)

	Closed accounts 1936/37	1937/38	1938/39	1939/40	1940/41	1941/42	1942/43	1943/44	1944/45	1945/46	1946/47	1947/48	Preliminary estimates 1947/48	1948/49
A. *General Budget*														
Taxation receipts														
1. Income tax	Details not available	0.5	0.5	0.5	0.5	0.6	2.8	3.7	4.6	4.4	4.8	7.3		
2. Excess profits tax		—	—	—	—	—	—	—	—	—	—	2.2		
3. Stamp tax		0.5	0.5	0.4	0.3	0.5	0.6	0.9	0.9	0.9	1.2	1.3		
4. Excises:														
(*a*) Alcohol and alcoholic beverages		0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.6		
(*b*) Cigars, cigarettes, tobacco		0.5	0.5	0.5	0.5	0.6	0.8	0.8	0.9	1.3	1.4	1.5		
(*c*) Vegetable oil		0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.2		
(*d*) Lard substitutes		0.2	0.1	0.1	0.1	[1]	[1]	[1]	[1]	[1]	[1]	[1]		
(*e*) Other excises (on gasoline, matches, salt, soap)		0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4		
TOTAL EXCISES		1.4	1.2	1.3	1.2	1.2	1.5	1.6	1.6	2.0	2.2	2.7		
5. Customs:														
(*a*) Imports	20.7	17.6	20.8	18.3	18.4	15.7	16.1	24.5	22.7	25.1	38.6	42.6	26.1	31.2
(*b*) Exports	8.0	4.9	4.8	2.9	3.1	3.6	6.1	6.4	7.7	7.4	13.3	14.8	12.4	14.5
(*c*) Miscellaneous	0.1	0.1	0.1	0.1	[1]	[1]	0.1	0.1	0.2	0.3	0.5	0.8	0.6	0.7
TOTAL CUSTOMS	28.8	22.6	25.7	21.3	21.5	19.4	22.3	31.0	30.6	32.8	52.4	58.2	39.1	46.4
6. Other taxes (automobiles, irrigation, occupational tax on foreigners, radio tax, stock and bond tax)		0.3	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.7		
TOTAL TAXATION RECEIPTS		25.3	28.3	23.9	24.0	22.2	27.7	37.8	38.4	40.7	61.3	72.4		
Non-taxation receipts														
7. Administrative receipts	Details not available	0.9	0.9	1.3	1.0	1.1	1.5	1.8	1.6	1.6	2.0	3.0		
8. National property (rent of land)		0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.4		
9. Public undertakings:														
(*a*) Post office		0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.8	1.0	0.6	0.5		
(*b*) Telegraph and telephone service		0.5	0.5	0.4	0.4	0.4	0.5	0.5	—	—	—	—		
(*c*) Water service rents		0.3	0.3	0.3	0.3	0.3	0.4	0.4	—	—	—	—		
10. Miscellaneous receipts		0.3	0.3	0.2	0.4	0.5	1.3	0.5	0.3	0.4	0.4	2.0		
11. Receipts from commune[2]		0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.4	0.4	0.5	0.5		
TOTAL BUDGET RECEIPTS	34.4	28.1	31.1	26.9	26.9	25.6	32.7	42.4	41.9	44.5	65.3	78.8	51.7	67.0
B. *Public Works Contract*, 1938		0.3	8.3	8.8	7.3	2.5	0.3	—	—	—	—	—	—	—
TOTAL RECEIPTS	34.4	28.4	39.4	35.7	34.2	28.1	33.0	42.4	41.9	44.5	65.3	78.8	51.7	67.0

[1] Less than 0.1 million gourdes.

[2] Receipts to defray cost of collection of communal revenues by the Internal Revenue Service.

Note: Due to rounding, the figures in the different columns do not in all cases add up exactly to the totals shown.

TABLE 19

Budget Expenditures

(in millions of gourdes)

	Closed accounts												Preliminary estimates	
	1936/37	*1937/38*	*1938/39*	*1939/40*	*1940/41*	*1941/42*	*1942/43*	*1943/44*	*1944/45*	*1945/46*	*1946/47*	*1947/48*	*1947/48*	*1948/49*
A. *General Budget*														
1. Interior (covers expenditure of Presidency)	1.9	1.7	2.0	2.0	1.7	1.9	1.8	2.3	2.1	1.8	2.9	5.5	14.0	17.8
2. Justice	1.4	1.3	1.3	1.3	1.1	1.3	1.3	1.4	1.6	1.7	1.9	2.5	2.4	2.8
3. Foreign Affairs	1.1	0.8	0.9	0.9	1.0	0.7	0.9	0.9	1.4	1.4	2.4	3.9	2.1	3.1
4. International institutions (Sanitary Mission, co-operative educational programme)	0.1	0.1	0.1	0.1	[1]	[1]	[1]	0.1	0.3	0.5	1.6	2.2	1.1	1.1
5. National Defence – *Garde d'Haiti*	6.8	7.5	7.8	7.5	6.4	6.9	6.6	7.7	9.0	9.7	11.5	13.7	—	—
6. Public Health	2.6	2.6	2.6	2.5	2.0	2.4	2.5	2.8	3.1	3.2	4.3	5.3	3.4	6.7
7. Education	1.9	2.3	2.6	2.6	2.2	2.4	2.4	2.7	3.2	3.9	5.4	8.1	5.7	9.7
8. Commerce	0.4	0.3	0.4	0.3	0.3	0.3	0.4	0.7	0.7	0.7	0.9	0.9	0.9	1.0
9. Agriculture and Labour	0.1	0.1	0.1	0.1	[1]	[1]	[1]	[1]	[1]	[1]	[1]	—	—	—
10. Tourism	—	—	—	—	—	—	—	—	—	—	—	0.2	—	0.6
11. Labour[2]	0.6	0.2	—	—	—	—	—	—	—	—	0.2	0.3	0.2	0.3
12. Agricultural Service	2.0	1.8	1.7	1.7	1.5	2.0	1.9	2.4	2.4	2.0	2.6	4.3	1.4	4.3
13. Public Works	5.0	3.7	3.7	3.3	2.8	3.0	2.7	3.6	3.3	4.2	7.2	14.6	3.6	3.5
14. Department of Finance	0.8	0.8	0.9	0.6	1.2	0.9	0.9	1.1	1.6	1.7	1.6	4.7		
15. Internal Revenue Service	1.0	1.0	1.0	1.0	0.9	1.0	1.3	1.6	1.5	1.4	1.7	2.2	4.4	5.1
16. Fiscal Department BNRH (Fiscal Representative)	1.4	1.3	1.3	1.0	1.0	0.9	0.9	1.0	1.4	1.5	2.0	2.3	0.2	0.3
17. National Economy	—	—	—	—	—	—	—	—	—	—	0.1	1.3		
18. Public Debt														
(*a*) Interest:														
(i) Series A and C bonds			2.4	2.4	2.4	2.4	2.4	2.3	2.1	2.0	1.8			
(ii) Public Works Contract			0.1	0.7	0.8	1.0	1.1	1.2	0.9	0.7	0.3			
(iii) Internal loan, 1947			—	—	—	—	—	—	—	—	0.5			
(*b*) Amortization:	7.5	3.0										10.8	11.7	10.5
(i) Series A and C bonds			0.1	0.1	[1]	0.1	0.1	3.8	3.5	1.5	6.2			
(ii) Public Works Contract			—	—	—	[1]	0.2	6.0	4.0	2.0	4.0			
(iii) Internal loan, 1947			—	—	—	—	—	—	—	—	0.8			
19. Religion	0.4	0.4	0.4	0.4	0.3	0.5	0.5	0.4	0.4	0.4	0.5	0.9	0.6	0.6
TOTAL BUDGET EXPENDITURE	35.0	28.9	29.6	28.5	25.6	27.7	28.0	42.0	42.5	40.4	60.4	83.7	51.7	67.4
B. *Public Works Contract*, 1938	—	0.3	8.3	8.8	7.3	2.5	0.3	—	—	—	—	—	—	—
TOTAL	35.0	29.2	37.9	37.3	32.9	30.2	28.3	42.0	42.5	40.4	60.4	83.7	51.7	67.4

[1] Less than 0.1 million gourdes.

[2] For the first four months of 1937-38 there was a separate Labour Department. On 1 February 1938 part of the functions of this Department were transferred to the Department of Agriculture and the balance to the Department of Education.

Note: Due to rounding, the figures in the different columns do not in all cases add up exactly to the totals shown.

ANNEXES

Table 20

Outline for an Adaptation of the Haitian Budget Classification to the Scandinavian Model

A. CURRENT ACCOUNT BUDGET

I. *Receipts*

1. *Taxes*
   - (*a*) Income
   - (*b*) Excess profits
   - (*c*) Property
   - (*d*) Death duties
   - (*e*) Identification card
   - (*f*) Customs duties:
     - (i) Import
     - (ii) Export
   - (*g*) Excises:
     - (i) Alcohol, etc.
     - (ii) Cigarettes, cigars, etc.
     - (iii) Vegetable oils
     - (iv) Other excises
   - (*h*) Stamp tax
   - (*i*) Miscellaneous taxes

TOTAL TAX RECEIPTS

2. *Government monopolies, net proceeds*:
   - (*a*) Tobacco
   - (*b*) Sugar
   - (*c*) Bananas
   - (*d*) Cement
3. *Net revenue from State Enterprises*:
   - (*a*) Post office
   - (*b*) Telegraph and telephone[1]
   - (*c*) Water service rent[1]
   - (*d*) Military airlines[1]
   - (*e*) Printing press of the Government[1]
   - (*f*) Electric service at Gonaïves[1]
   - (*g*) Coast Guard yard for repairing boats[1]
4. *Interest, dividends, etc.:*
   - (a) Share in profits of the Banque nationale[1]
   - (*b*) Interest on loans granted by the Government
   - (*c*) Others

[1] At present included in non-fiscal accounts.

5. *Administrative receipts:*
   (*a*) Fees
   (*b*) Fines
   (*c*) Miscellaneous Customs receipts
   (*d*) Others
6. *Net revenue from public domain:*
   (*a*) Rent of land
7. *Net proceeds of Lottery*[1] (account LEH)
8. *Surplus of non-fiscal accounts*

TOTAL RECEIPTS ON CURRENT ACCOUNT

II. *Expenditure*
9. *Presidency*
10. *Legislature*
11. *Expenses of Ministries* (enumerated)
12. *Pensions*[1] (PC account)
13. *Interest on public debt*
14. *Net deficit from State enterprises* (enumerated)

B. CAPITAL ACCOUNT BUDGET

I. *Increases and decreases of assets*
1. *Immovables of State enterprises*
   (*a*) Capital receipts (from sale of assets, etc.)
   (*b*) Expenditure for replacements and new constructions (given in detail: post office, telegraph, etc.)

TOTAL NET INCREASE OF ASSETS

2. *Other immovables belonging to the Government*
   (*a*) Capital receipts
   (*b*) Expenditure for replacements and new installations (of highways, dams, lignite exploitation, in detail)

TOTAL NET INCREASE OF ASSETS

3. *Assets of special funds, net increases*
4. *Loans granted by the Government for various purposes* (agricultural loans, deposits at the National Bank, in detail)
5. *Net increase of loans and advances granted by the Government for various purposes*
6. *Surplus carry-over from current account*

NET INCREASE OF ASSETS

II. *Increases and decreases of liabilities*
1. *Public debt*
   (*a*) Receipts from sale of bonds, etc.
   (*b*) Expenditures for public debt amortization (amortization of domestic debt, of foreign debt, in detail)

NET INCREASE IN THE PUBLIC DEBT

2. *Liabilities of special funds, net increase*
3. *Deficit carry-over from the current account*

[1] At present included in non-fiscal accounts.

OBSERVATIONS

Current Account Budget

In accordance with the net budgeting principle, only net results of all Government operations are shown in the current account. Current receipts and expenditures comprise all non-capital receipts and expenses, irrespective of whether they are regularly recurrent or non-recurent.

Each State activity has a budget of its own which is modelled on the same principles as the general budget. Public undertakings have operational receipts and expenditures; the net result of these operations is transferred to the current account. If there is a surplus it is booked under items 2 or 3 on the receipts side; if there is a deficit it is booked under item 14 on the expenditures side. The net budgeting principle is also to be applied in preparing the budgets of the different units of the administration. Thus, while the individual budget of the National Coffee Bureau will show as receipts the fees charged for coffee standardization and other receipts earmarked for the Bureau, and as expenditures the disbursements for salaries and wages, only the net balance, be it a minus or a plus quantity, will be transferred to the accounts of the Ministry of Finance. Taking as another example the University of Port-au-Prince, receiving tuition fees and other receipts and paying salaries and wages, only the net balance, be it a minus or a plus quantity, is to be transferred to the account of the Ministry of Education.

Similarly, the current account of the Government administration as a whole will be made up in the following manner:

(1) Its receipts will consist of revenues from taxes and fees, etc., of net income derived from State enterprises, from public domains, the lottery, etc., of interest on capital lent, dividends, and so on.

(2) Its expenditure will consist of disbursements for the Presidency, legislature, ministries, pensions, interest on the public debt, and of deficits incurred by (negative net income of) State enterprises, etc.

(3) The net balance on the current account budget is to be included in the capital account budget, on the liabilities side if a deficit, and on the assets side if a surplus.

Capital Account Budget

The presentation of the capital account is different from that of the current account. In the capital account on both the assets and the liabilities sides are to be shown the gross receipts, gross expenditures and net balance for each sub-item. On the assets side of the capital account are to be included all expenditures that create a physical asset of longer duration than the fiscal period of one year. Government investments in State-administered business enterprises, loans to private enterprises or purchases of shares in private companies, repair and new construction of schools, hospitals, roads, and sanitation facilities. The Swedish budget system goes one step further in dividing capital expenditures into two main classes: on the one hand revenue-producing capital investments (such as loans,

investments in public undertakings and amortization of public debt), and, on the other, such capital expenditure as is not expected to increase directly the future revenue of the State (such as purchases of various materials, chiefly military equipment, certain public works, buildings, etc.).

The capital account is not balanced according to orthodox accounting principles, a contribution from State cash holdings being the balancing item.

[library stamp]

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HAITI
Road, all weather, hard-surfaced (asphalt)
Road, all weather, loose-surfaced (gravel)
Road, dry weather, dirt
Railway, 3'6" gauge
Department boundary
MILES
0 10 20 30 40 50
KILOMETRES
0 10 20 30 40 50
ATLANTIC OCEAN
CARIBBEAN SEA
Golfe de la Gonave
Canal du Sud ou de la Gonave
Canal de Saint Marc
ILE DE LA TORTUE
Canal de la Tortue
ILE DE LA GONAVE
ILE GRANDE CAYEMITE
ILE-A-VACHE
DEPARTEMENT DU NORD OUEST
DEPARTEMENT DU NORD
DEPARTEMENT DE L'ARTIBONITE
DEPARTEMENT DE L'OUEST
DEPARTEMENT DU SUD
PLATEAU CENTRAL
MASSIF DE LA SELLE
FORET DES PINS
Port-de-Paix
Cap-Haitien
Gonaives
St. Marc
PORT-AU-PRINCE
Jacmel
Les Cayes
Jérémie
Léogane
Petit-Goâve
Hinche
Mirebalais
Saltrou
Anse-à-Pitre
Môle St. Nicolas
Anse Rouge
Dessalines
Port-Salut
Aquin
Miragoâne
Anse-à-Veau
74°
73°
72°
20°
19°
18°

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JULY 1949
UNITED NATIONS
UN PRESENTATION 1138